

2013

# Virginia Commonwealth University Graduate and Professional Programs Bulletin

Virginia Commonwealth University

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## 2013-14 Graduate and Professional Programs Bulletin

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Located in the heart of Richmond, the capital of Virginia since 1779, Virginia Commonwealth University serves an integral role in the economic health of the city and the state, educating the current and future work force, reaching out to the community, advancing research and enhancing patient care.

VCU was founded in 1838 as the medical department of Hampden-Sydney College, becoming the Medical College of Virginia in 1854. In 1968, the General Assembly merged MCV with the Richmond Professional Institute, founded in 1917, to create Virginia Commonwealth University.

Today, VCU offers comprehensive undergraduate, master's, doctoral and professional programs and encompasses one of the largest academic health centers in the nation. With a record \$260 million in sponsored research funding last fiscal year, VCU became one of only 28 public universities in the country with an academic medical center to be designated as a research university with very high research activity as well as a Community Engaged Institution, both by the Carnegie Foundation. Its centers and institutes of excellence support the university's research mission and involve faculty from multiple disciplines in the arts, public policy, biotechnology and health care discoveries.

VCU enrolls more than 31,000 students in 223 degree and certificate programs in the arts, sciences and humanities. Sixty-eight of the programs are unique in Virginia, many of them crossing the disciplines of VCU's 13 schools and one college. VCU has a full-time instructional faculty of more than 2,000 who are nationally and internationally recognized for excellence in the arts, business, education, engineering, the humanities, the life sciences, social work and all the health care professions. With more than 19,000 employees, VCU and the VCU Health System also have a significant impact on Central Virginia's economy.

Building on the foundation of VCU's nationally ranked academic programs and academic medical center, research and scholarly productivity, and engagement with the communities it serves, the university's strategic plan, Quest for Distinction, launches a new vision for VCU: to elevate its stature and become the nation's top urban, public research university. This focused plan capitalizes on the outstanding assets of the VCU experience and truly distinguishes VCU as a major research university committed to academic quality and student success at all levels.

Quest for Distinction also embodies VCU's commitment to human health through the VCU Medical Center, which includes the university's health sciences schools and offers state-of-the-art care in more than 200 specialty areas, many of national and international note, including organ transplantation, head and spinal cord trauma, burn healing and cancer treatment.

VCU and the VCU Health System have been honored with prestigious national and international recognition for top-quality graduate, professional and medical-care programs, reflecting a commitment to be among America's top research universities focused on student learning.

## Administration

VCU administration provides leadership and organizational structure for the university, overseeing its goals and mission. Refer to each [unit's Web site](#) for a current listing of administrators.

### Deans

Deans provide leadership for their respective school or college. Refer to each [unit's Web site](#) for a current listing of its deans, departmental chairs and program heads.

## Accreditation

Virginia Commonwealth University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, master's, doctoral and first professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097; telephone: (404) 679-4500. Note: The Commission is to be contacted **only** if there is evidence that appears to support an institution's significant noncompliance with a requirement or standard.

### Academic program accreditation

See the college/schools for detailed information about program accreditation.

## Specialized program accreditation or certification

### Campus Police

Police Academy  
Certified by the Virginia Department of Criminal Justice Services

### Division of Student Affairs and Enrollment Services

University Counseling Services  
American Psychological Association  
Student Health Services  
Joint Commission on Accreditation of Health Care Organizations

### Hospital accreditation

VCU Health System  
Joint Commission on Accreditation of Health Care Organizations

## Mission statement

As the premier urban, public research university in Virginia, VCU's mission is to advance knowledge and student success through its commitments to:

- An engaged, learner-centered environment that fosters inquiry, discovery and innovation in a global setting
- Research that expands the boundaries of new knowledge and creative expression and promotes translational applications to improve human health
- Interdisciplinary collaborations that bring new perspectives to complex problems and mobilize creative energies that advance innovation and solve global challenges
- Health care that strives to preserve and restore health for all people, to seek the cause and cure of diseases through groundbreaking research, and to educate those who serve humanity
- Diversity that provides a climate of inclusion, a dedication to addressing disparities wherever they exist, and an opportunity to explore and create in an environment of trust
- Sustainable, university-community partnerships that enhance the educational, economic and cultural vitality of the communities VCU serves in Virginia and around the world

## Vision statement

VCU will be a premier urban, public research university distinguished by its commitment to:

- The intellectual and academic success of a diverse student body
- Research and discovery that advances knowledge, inspires creativity and improves human health
- The global engagement of students, faculty and staff that transforms lives and communities

## Core values

1. **Accountability** – committing to the efficient and transparent stewardship of our resources to achieve institutional excellence
2. **Achievement** – ensuring distinction in learning, research and scholarly pursuits, service, and patient care
3. **Collaboration** – fostering collegiality and cooperation to advance learning, entrepreneurship and inquiry
4. **Freedom** – striving for intellectual truth with responsibility and civility, respecting the dignity of all individuals
5. **Innovation** – cultivating discovery, creativity, originality, inventiveness and talent
6. **Service** – engaging in the application of learning and discovery to improve the human condition and support the public good at home and abroad
7. **Diversity** – ensuring a climate of trust, honesty and integrity where all people are valued and differences are recognized as an asset
8. **Integrity** – adhering to the highest standards of honesty, respect and professional and scholarly ethics

## Oak Ridge Associated Universities Consortium

Since 1963, students and faculty have benefited from VCU's membership in Oak Ridge Associated Universities (ORAU), a consortium of 87 colleges and universities and a contractor for the U.S. Department of Energy. ORAU works with its member institutions to help students and faculty gain access to federal research facilities, to keep its members informed about opportunities for scholarship and research appointments and to organize research alliances among its members.

Faculty, graduate students and undergraduate students may access a wide range of opportunities for study and research, including the Lindau-Nobel Laureates and Powe Junior Faculty programs. Many of these programs are designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines.

For more information about ORAU and its programs, contact:

Dr. Francis L. Macrina, ORAU Councilor for VCU  
(804) 827-2262

Ms. Monnie E. Champion, ORAU Corporate Secretary  
(865) 576-2206

Or you may visit the ORAU Web site at [www.orau.org](http://www.orau.org).

## VCU Health System Authority

In April 1996, Gov. George Allen signed legislation that established the Medical College of Virginia Hospitals Authority. Effective July 1, 1997, the operations, employees and obligations of MCV Hospitals (formerly a division of VCU) were transferred to the Authority. Three years later, in connection with legislation signed by Gov. James Gilmore, the MCV Hospitals Authority became the Virginia Commonwealth University Health System Authority. The clinical activities of MCV Hospitals, MCV Physicians and the VCU School of Medicine are now coordinated and integrated by and through the VCU Health System.

The VCU Health System Authority is charged by statute with the missions of operating MCV Hospitals as teaching hospitals for the benefit of the schools of the Health Sciences Division of VCU, providing high quality patient care and providing a site for medical and biomedical research, all of which missions are required to be performed in close affiliation with the Health Sciences Division. The VCU Vice President for Health Sciences also serves as the Chief Executive Officer of the VCU Health System Authority, and five VCU faculty physicians serve as members of the Health System Board of Directors.

## Board of Visitors

The Board of Visitors is the voting body of Virginia Commonwealth University. Each year, the governor of Virginia appoints members. Refer to [Office of the President's Web site](#) for a current listing of board members.

## Determination of student classification for in-state tuition purposes

Tuition is determined by the number of credit hours a student is taking, the student's residency classification, course of study and classification level. For in-state tuition benefits, the student must comply with [Section 23-7.4 of the Code of Virginia](#).

All applicants to VCU who wish to be considered for in-state tuition rates as Virginia residents must submit the Application for Virginia In-state Tuition Rates. This application is a part of the admissions packet and the nondegree-seeking student enrollment package. The residency determination of the applicant is conveyed at the time of admission as a degree-seeking student or nondegree-seeking student.

New and continuing students initially classified as non-Virginians for tuition purposes may request a review of the initial residency determination by completing an Application for Change of Domicile available from the Office of Records and Registration (online). The student must present clear and convincing evidence that he or she is not residing in the state primarily to attend school. The application deadline is 30 days prior to the start of the semester, and it is the responsibility of the student to establish or to file an appeal to change his/her residency classification prior to the start of classes for the semester under

consideration. In accordance with the Code of Virginia, applications received after the start of the semester must be considered for the next semester. Submit completed applications with documentation to the university residency appeals officer. Processing may require four to six weeks; therefore it is strongly recommended that applications be submitted earlier than the stated deadline.

Our service to students is limited to assuring that they understand the procedures for appealing and that they have access to information about the relevant sections of the Code of Virginia. We provide information about the steps of our process and access to the applicable sections of the statute and the associated guidelines. We provide qualified staff to review the appeals and make decisions based on the information students provide. What we cannot do is provide advisement to students as to how to present their case for review; we cannot become the student's advocate since we must make the decision.

Students approved for a change to in-state status for tuition purposes are notified by mail with copies of their approval letters sent to the Office of Financial Aid and the Office of Student Accounting. Students denied this status are also notified by mail. The denial letter informs the student of procedures for appeal of this decision, to include filing an appeal with the University Residency Appeals Committee. Students who submit fraudulent applications, falsify documentation or conceal information will be subject to reclassification, payment of all nonresident fees owed and university discipline.

Please note that a student with in-state status for tuition purposes who exceeds 125 percent of the credit hours needed to complete his program will be assessed a tuition surcharge.

## Rights of students under the Family Educational Rights and Privacy Act

Pursuant to a federal statute enacted to protect the privacy rights of students (Family Educational Rights and Privacy Act of 1974 [FERPA], as amended, enacted as Section 438 of the General Education Provisions Act), eligible students of Virginia Commonwealth University are permitted to inspect and review education records of which the student is the subject. A statement of university policy concerning inspection and disclosure of education records has been formulated in compliance with the federal statute. Copies of the policy also are available from the Office of Records and Registration or on the Web at [www.enrollment.vcu.edu/rar/registration/ferpa.html](http://www.enrollment.vcu.edu/rar/registration/ferpa.html).

Generally, the act provides that no personally identifiable information will be disclosed without the student's consent, except for directory information and information to other school officials with a legitimate educational interest. When personally identifiable information, other than directory information, is disclosed, a record will be maintained of these disclosures. This record also is available for inspection and review by the student.

If an eligible student feels that his or her education record is inaccurate, misleading or otherwise in violation of the student's privacy or other rights, the student may request an amendment to the record.

Should the university fail to comply with the requirements of the act, the student has the right to file a complaint with the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Ave., S.W., Washington, D.C. 20202-5901.

## Parental Notification Amendment

Amendments to FERPA signed into federal law in fall 1998 specifically allow notification to the parents or guardians of students under the age of 21 who violate any law or university rule regarding use or possession of alcohol or other controlled substance. The Virginia Attorney General's Task Force on Drinking by College Students also recommended such notification in its 1998 report.

In accordance with these documents, a parental notification procedure has been included in the VCU Drug Free Schools and Workplace Policy.

## Consumer information

The federal Higher Education Act of 1965, as amended, requires that institutions of higher education disclose certain consumer information to current students, prospective students, current employees and/or prospective employees. This consumer information can be found online at [www.consumerinfo.vcu.edu](http://www.consumerinfo.vcu.edu).



**VCU**

**Make it real.**

## **2013-14 Graduate and Professional Programs Bulletin**

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**Graduate School and graduate study**

Graduate programs are administered by the individual departments, schools and centers with assistance from the Graduate School. Major coordination of the various degree programs is performed by the University Graduate Council, which is chaired by the dean of the Graduate School. The University Graduate Council is comprised of two elected faculty members from each school and one elected faculty member from VCU Life Sciences.

The Graduate School section of the VCU Bulletins documents the official admission and academic rules and regulations that govern graduate education at the university. The University Graduate Council determines these policies.

The [archived](#) copies of current and past bulletins (catalogs) reflect all policies and procedures in effect at the beginning of the stated academic year. The online Bulletin is updated regularly to reflect changes that occur throughout the academic year.

## Graduate programs

In-depth descriptions of all graduate programs at VCU are provided in the individual school and program sections of this bulletin. The Graduate School Web site ([www.graduate.vcu.edu](http://www.graduate.vcu.edu)) provides links and contact information for all graduate programs offered at VCU. The Web site also provides updates that occur throughout the academic year, as well as the Application to Graduate Study and complete instructions for applying to all graduate programs.

Refer to the Program Search feature of this Web site for a complete listing of all graduate programs, as well as application deadline dates, and special admission requirements and contact information. Applicants are encouraged to contact the school/department sponsoring the intended program of study at the telephone numbers and/or e-mail addresses provided. Other important contact information is provided on the [Graduate School](#) Web site as well.

## Welcome from the graduate dean – Important information for all graduate students

On behalf of the graduate faculty, I welcome you to graduate study at Virginia Commonwealth University. At VCU you will find a comprehensive array of academic programs, outstanding faculty and a supportive environment conducive to graduate study and research. The university offers nationally and internationally acclaimed graduate and research programs that meet the many needs of the commonwealth of Virginia, the United States and the world.

The University Graduate Council, chaired by the dean of the Graduate School, provides academic and administrative oversight and coordination of all graduate programs in accordance with the Graduate School's mission: to provide leadership in all matters relating to graduate education at Virginia Commonwealth University in order to create a stimulating environment for teaching, learning, research, creative expression and public service. Academic departments and schools administer individual graduate degree programs with the assistance and support of the VCU Graduate School. In-depth descriptions of all graduate programs at VCU are provided in the individual school and program sections of this bulletin.

### VCU Graduate Bulletin (catalog)

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

**It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the Graduate Bulletin as well as the academic regulations in individual school and department publications and on program websites; however, in all cases, the official policies and procedures of the University Graduate Council, as published on this Graduate Bulletin website and on the Graduate School website, take precedence over individual program policies and guidelines.**

The [archived](#) copies of current and past bulletins (catalogs) reflect all policies and procedures in effect at the beginning of the stated academic year. The online Bulletin is updated regularly to reflect changes that occur throughout the academic year.

Students who maintain continuous enrollment are subject to the curricular requirements of the bulletin in effect at the time of admission, and to subsequent policy changes approved by the University Graduate Council for immediate implementation.

Students who do not maintain continuous enrollment must reapply for admission and will be subject to the requirements of the bulletin in effect at the time of readmission, and to subsequent policy changes approved by the University Graduate Council for immediate implementation. ([See policy on Exceptions.](#))

Graduate students should contact the Graduate School at any time regarding questions relating to graduate study at VCU.

I commend you for your decision to pursue graduate study, and I wish you every success in the pursuit of your educational goals at Virginia Commonwealth University.

Sincerely,

F. Douglas Boudinot  
Dean of the Graduate School

Revised 5/11/2010  
University Graduate Council

## Administration and contact information

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## Admission to graduate study

The Board of Visitors, the administration and the faculty of VCU are committed to a policy of equal opportunity in education and employment without regard to age, race, color, national origin, gender, religion, sexual orientation, veteran's status, political affiliation or disability.

## Admission requirements

Minimum admission requirements for graduate study at VCU are outlined below. Individual departments and programs may set more stringent requirements as described in relevant sections of the Graduate Bulletin. Each department/program determines how to evaluate the individual requirements in a holistic assessment of the applicant's potential for success in graduate study in a particular field. Additional factors, such as prior professional experience, may also be taken into consideration.

1. **Graduation from a regionally accredited college or university or its equivalent.** Departments may admit graduate applicants, provisionally or fully, with three-year bachelor's degrees (provided these three-year degrees allow the students to pursue graduate studies in their countries). Further, the department will require prerequisite/foundation courses as needed to fill in any gaps in the student's educational background.
2. **Required grade point average.** For admission to graduate study at VCU, the Graduate School requires a minimum undergraduate GPA of 3.0. In cases where the undergraduate GPA is below 3.0, additional factors, including performance in the last 60 hours of course work, may be weighted more heavily in the admissions assessment. For students with earned graduate degrees from accredited institutions, the graduate GPA may be the primary basis for consideration.
3. **Test scores.** Standardized graduate-level test scores (fewer than five years old) as determined by the individual program/department. Note: Not all programs require standardized test scores. See relevant sections of the Graduate Bulletin for individual program requirements.
4. **Letters of recommendation.** Three letters of recommendation from instructors or professional references in the applicant's intended field of study. Letters should address the applicant's academic and professional abilities and preparation for graduate study.
5. **Statement of intent.** A statement of the applicant's reasons for pursuing graduate education in the planned course of study at VCU.

6. **Such additional requirements as may be established by individual programs and schools.** These may include personal interviews, auditions, submission of a portfolio or other materials.

An exception to the general admissions requirements is made for students entering through the Guaranteed admissions programs of the VCU Honors College. (See the heading "[Guaranteed Admission Through The Honors College](#)" in this section.)

## Types of admissions

Students may be admitted to graduate study under one of the following classifications:

### Degree-seeking student

An applicant who meets all requirements for admission to a degree program and who has been recommended by the department or school in which the applicant proposes to study may be admitted as a degree-seeking student.

### Provisional student

An applicant who is missing an official document or test score may be admitted provisionally to a degree program, if recommended by the department and approved by the graduate dean. In order to finalize admission, all pending documentation must be provided by the end of the fourth week of the first semester of matriculation in the program. Holds will be placed by the Graduate School on all future registrations for students who do not submit required documentation by this deadline. An applicant who has not fully met the requirements of the program or school to which admission is sought also may be admitted to that program or school as a provisional student.

Reasons for requesting a provisional admission are evaluated by the department/program and the school, and documents supporting a request of provisional admission are forwarded to the dean of the Graduate School with a request for admission. Conditions of a provisional admission for unmet academic standards must be met within one year of enrollment. No prerequisite courses taken as a provisional student may be applied toward a graduate degree. Failure to meet conditions of provisional admission will result in the student's dismissal from the Graduate School.

Revised 5/11/2010

University Graduate Council

### Nondegree-seeking student

An individual who wishes to take graduate courses without formal admission to a degree program is classified as a nondegree-seeking student. There is no limit to the total number of credits a nondegree-seeking student may take, as long as the student's academic performance is credible. In courses where enrollment is limited, first priority is given to students admitted to the program, followed by other VCU graduate degree-seeking students. Nondegree-seeking students are not exempt from any prerequisite that may be specified for a course. **A nondegree-seeking student who is later admitted as a degree-seeking student will not be allowed to apply toward a degree more than six credits earned as a nondegree-seeking student.**

In order to enroll in graduate courses as a nondegree-seeking student, students must have graduated (or be in final term expecting to graduate) from a regionally accredited college or university or its equivalent. Information and forms [certifying eligibility](#) to take graduate courses are available at VCU Records and Registration service centers, or at the Graduate School, which is located in the Moseley House on the Monroe Park Campus.

The maximum number of credits for which nondegree-seeking students may enroll in any semester without special permission is 15. More than 15 credits is an overload. More than 15 credits may result in increased tuition. Permission to enroll for more than 15 credits may be granted upon the written recommendation of the adviser who oversees the enrollment of nondegree-seeking students for their programs/schools through departmental governance procedures, to the dean of the Graduate School.

Revised 5/10/2011

University Graduate Council

## Entrance examinations

To supplement other evidence of preparation for graduate work, most graduate programs at VCU consider the scores from current standardized tests commonly used and deemed appropriate for a given discipline. Applicants should refer to the individual program screens of this Web site for a specific test requirements.

Applicants are encouraged to visit individual department and program Web sites and to contact the school/department sponsoring the intended program of study at the telephone numbers and/or e-mail addresses listed for additional information about specific test score requirements.

Schools or programs reserve the right to accept standardized test scores older than five years, as long as official test scores are available from the testing service. Any exceptions to the general requirement proposed by schools or programs must be approved by the University Graduate Council.

Individual exceptions to this requirement may be considered: (a) for students with previous graduate degrees, (b) for students with demonstrated competency (achievement of a grade "B" or above) in course work at the graduate level, preferably in the context of an advanced-degree program and (c) for students entering graduate study through the [Guaranteed Admission Programs of the University Honors Program](#). Any student considered for waiver of standardized testing requirements must meet all other requirements for full admission to the program to which he or she is applying.

Common examinations used at VCU are the Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT), the Law School Admissions Test (LSAT), and the Miller Analogies Test (MAT). These examinations will not replace other records of achievement as a basis for admission to the Graduate School, but will offer additional evidence concerning the qualifications of students wishing to undertake graduate work.

## Guaranteed admission through The Honors College

Active members of The Honors College may apply to The Honors College Guaranteed Admission Program for certain graduate programs either before matriculation at VCU or early in their undergraduate studies. (The specific deadline for applying is set by the program.) Upon graduation, honors students in the Guaranteed Admission Program may enter the graduate program to which they have applied, provided they have satisfied all of the program requirements.

Interested students should meet with the senior associate dean of The Honors College prior to making application for guaranteed admission to a graduate program. Following that meeting, the student must submit a completed graduate application form with three letters of recommendation to the Graduate School. To be accepted into The Honors College Guaranteed Admission Program, a student must be accepted by the university, by the Graduate School and by the admissions committee of the program the student wishes to enter. The admissions committee may require an interview. Final notification of guaranteed admission is made by the dean of the Graduate School.

For additional information, refer to the [Honors College](#) section of the Undergraduate Bulletin, or contact The Honors College at P.O. Box 843010, Richmond, VA 23284-3010; (804) 828-1803; or [www.honors.vcu.edu](http://www.honors.vcu.edu).

Programs that offer guaranteed admission through The Honors College include:

- Doctor of Dental Surgery
- Doctor of Medicine
- Doctor of Occupational Therapy
- Doctor of Physical Therapy
- Doctor of Philosophy
  - Anatomy and Neurobiology
  - Biochemistry
  - Biomedical Engineering
  - Biostatistics
  - Human Genetics
  - Microbiology and Immunology
  - Neuroscience
  - Nursing
  - Pharmacology and Toxicology
  - Physiology
  - Psychology
  - Systems Modeling and Analysis
- Master of Accountancy
- Master of Arts
  - Economics
  - History

- Master of Bioinformatics
- Master of Business Administration
- Master of Education
  - Adult Learning
  - Counselor Education
  - Special Education
    - Early Childhood Special Education
    - Emotional Disturbance
    - Mental Retardation
    - Learning Disabilities
    - Severe Disabilities
- Master of Environmental Studies
- Master of Health Administration
- Master of Product Innovation
- Master of Public Administration
- Master of Public Health
- Master of Science
  - Anatomy
  - Biochemistry
  - Bioinformatics
  - Biomedical Engineering
  - Biostatistics
  - Business
  - Clinical Laboratory Sciences
  - Computer Science
  - Criminal Justice
  - Environmental Studies
  - Forensic Science
  - Genetic Counseling
  - Gerontology
  - Health and Movement Sciences
  - Human Genetics
  - Information Systems
  - Mathematical Sciences
  - Microbiology and Immunology
  - Nursing
  - Pharmacology and Toxicology
  - Physics/Applied Physics
  - Physiology
  - Rehabilitation Counseling
  - Sociology
- Master of Science in Nurse Anesthesia
- Master of Science in Occupational Therapy
- Master of Taxation
- Master of Teaching
- Master of Urban and Regional Planning

## Multiple admissions

Students may not be admitted to degree-seeking status and enrolled in more than one graduate program (or in an undergraduate and graduate degree program, except as part of an approved bachelor's-to-master's curriculum) without petitioning and receiving written permission from the program director of each program in which the student is enrolled and the dean of the Graduate School.

## International students

The university encourages qualified international students, both nonimmigrant and immigrant, to seek admission to VCU. Complete information and application materials for international students may be obtained on written request from Virginia Commonwealth University, International Admissions, P.O. Box 843043, Richmond, VA, United States 23284-3043; by phone at (804) 828-6016; by e-mail: [vcuia@vcu.edu](mailto:vcuia@vcu.edu); or online at [www.vcu.edu/oie/ia](http://www.vcu.edu/oie/ia).

## English Language Proficiency Requirement

To ensure maximum benefit from academic study at VCU, all non-native English-speaking applicants, regardless of immigration status, must provide evidence of English language proficiency before admission and/or enrollment in the university.

Evidence of English language proficiency is evaluated based on factors such as length of stay in the United States, amount and type of formal U.S. education, Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE) scores and other



standardized test scores such as the GRE or GMAT. TOEFL/IELTS scores are valid for two years.

Revised 5/10/2011; 5/14/2013  
Global Education Office

The Graduate School reserves the right to require additional testing and study in the VCU English Language Program prior to full-time enrollment in university courses. The university offers a full-time English-as-a-Second-Language noncredit program. For information on the VCU English Language Program, including fees, international students can contact the English Language Program, Virginia Commonwealth University, P.O. Box 843043, Richmond, VA 23284-3043, United States; (804) 828-2551, or by email: [oe-elp@vcu.edu](mailto:oe-elp@vcu.edu); or online at [www.vcu.edu/oe/elp](http://www.vcu.edu/oe/elp).

### **Nonimmigrants (students with temporary U.S. visas)**

Because of the amount of time required to process applications from international students and for international students to obtain their visas, prospective students should apply well in advance of the international application deadlines. The deadlines are April 1 for fall semester, Oct. 1 for spring semester and Feb. 1 for summer session. Students also must meet specific program deadlines that may be different from April 1, Oct. 1 and Feb. 1, respectively. The graduate dean must authorize any exception to application deadlines. All required admission documents must be submitted no later than eight weeks prior to registration if appropriate immigration documents are to be issued. Applicants who are unable to meet this credential deadline will need to defer the intended semester of entry.

Both U.S. government regulations and VCU admission policies require nonimmigrant applicants to demonstrate:

- Satisfactory academic achievement.
- Adequate English language proficiency.
- Ability to finance all educational and living expenses.

International students are advised to refer to university and program admission requirements in this bulletin for other information requested of all applicants. An applicant must have earned a bachelor's degree from an accredited institution in the United States or an equivalent degree from a recognized foreign institution. Official academic records must be submitted.

International applicants must provide evidence of proficiency in the English language prior to admission and/or full-time enrollment in the university. An applicant may satisfy university English proficiency requirements by obtaining a satisfactory score on the TOEFL. The university minimum TOEFL score requirement is 550 (paper-based) or 80 (Internet-based); however, most graduate programs prefer a minimum TOEFL score of 600 (paper-based) or 100 (Internet-based). Some graduate programs will accept satisfactory scores on the IELTS as evidence of English proficiency. The university minimum IELTS score requirement is 6.5, but most graduate programs prefer an IELTS score of 7.0 or higher. The PTE is also accepted with a minimum score of 65. Individual programs may require higher scores. TOEFL, IELTS and PTE scores are valid for two years.

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As VCU does not generally provide financial support for graduate international students, applicants needing a student visa (F-1) or a visiting scholar visa (J-1) also must present documented evidence of available financial support to cover annual living and educational expenses while studying at VCU.

Proof of current visa type must be submitted with the application for applicants who are in the United States on student visas. F-1 students and J-1 visiting scholars admitted to VCU must submit copies of all immigration documents to the VCU International Student Adviser prior to enrolling in classes.

### **Immigrants (permanent residents, resident aliens and asylum/refugee applicants)**

Because immigrant applicants usually are in the United States at the time applications are submitted, these students are required to meet the same application deadlines as U.S. citizens.

If educated in the United States, immigrant students will be considered for admission under the same academic policies as those applied to U.S. citizens. If educated outside the United States, the same academic records are required as those for nonimmigrant students.

VCU requires detailed information concerning U.S. immigration status. Proof of permanent residency or application for permanent residency must be submitted with the admission application.

### **Admissions appeals**

The Graduate School will hold denied applicants' transcripts and test scores for one year. To reapply within this period, applicants should first contact the department or program. Additional materials should be supplied to strengthen the application, such as new test scores, new letters of recommendation or a new statement of intent.

### **Application procedures**

A link to the online application, other supplemental forms and instructions for applying to all graduate programs are available on the Graduate School website at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

A \$50 nonrefundable application fee must accompany each application. This fee will not be credited toward tuition payment.

Completed applications and all supporting materials must be submitted according to the application guidelines provided on the [Graduate School website](http://www.graduate.vcu.edu) and before the program deadlines specified throughout this bulletin website. Late applications for some programs may be considered when possible but may require provisional action.

**Note:** Reference letters, the statement of intent/personal essay and any other supplementary materials such as art portfolios, resume/vita or specific program-required documents should be submitted to the address specific to the program to which you are applying. However, some programs require that all application materials be sent directly to the Graduate School.

[Click here for instructions on submitting application materials for graduate programs and a list of program-specific addresses for supplemental materials.](#) All transcripts and test scores must be submitted to the Graduate School. Supporting documentation submitted by mail should be addressed to Virginia Commonwealth University, Graduate School, P.O. Box 843051, Richmond, VA 23284-3051. Application materials submitted in person may be delivered to the Graduate School office at the Moseley House, 1001 Grove Ave.

Graduate students must use the [Graduate School's online graduate application](#). Supporting materials for online applications must be submitted promptly. An application cannot be given final consideration until all required documentation and the application fee have been received. Applicants are strongly encouraged to pay by credit card when submitting the online application.

Students are encouraged to apply well before the program deadline to ensure receipt of all application materials. Program deadlines are found with degree/program information elsewhere in this Bulletin. Use the search feature located to the right of this page to find the program(s) of interest.

Completed applications and supporting materials are reviewed by the graduate faculty of the intended program, and final official notification of acceptance is made by the dean of the Graduate School.

Admission to a graduate program may be contingent upon the successful completion of undergraduate coursework, degrees or other prerequisites that may be specified by the program or school. Remedial coursework will not apply toward a graduate degree.

Students who do not apply at least one month prior to the beginning of any semester risk their financial aid eligibility in the event that the admission process is not completed prior to the first day of classes.

### **General academic regulations for all graduate students - VCU Graduate Bulletin (catalog)**

The VCU Graduate Bulletin (catalog) website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

**It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the Graduate Bulletin (catalog) as well as the academic regulations in individual school and department publications and on program websites; however, in all cases, the official policies and procedures of the**

**University Graduate Council, as published on this Graduate Bulletin website and on the Graduate School website, take precedence over individual program policies and guidelines.**

The [archived](#) copies of current and past bulletins (catalogs) reflect all policies and procedures in effect at the beginning of the stated academic year. The online Bulletin is updated regularly to reflect changes that occur throughout the academic year.

Students who maintain continuous enrollment are subject to the curricular requirements of the Graduate Bulletin (catalog) in effect at the time of admission, and to subsequent policy changes approved by the University Graduate Council for immediate implementation.

Students who do not maintain continuous enrollment must reapply for admission and will be subject to the requirements of the Graduate Bulletin (catalog) in effect at the time of readmission, and to subsequent policy changes approved by the University Graduate Council for immediate implementation. ([See policy on Exceptions.](#))

Graduate students should contact the Graduate School at any time regarding questions relating to graduate study at VCU.

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## University rules and procedures

VCU seeks to foster insight, imagination, creativity, resourcefulness, diligence, honesty and responsibility as well as the education of the men and women enrolled in its graduate programs. Such an enterprise can take place only where the highest standards of academic integrity exist.

Each member of the VCU community has certain responsibilities, rights and privileges. These are stated in some detail in the [VCU Rules and Procedures \[PDF\]](#), and all students are responsible for being familiar with provisions of this document. This document also provides for the process whereby disciplinary action, including separation from VCU, may be taken against a member of the university community as a result of behavior that is in violation of the prohibited conduct as stated in the VCU Rules and Procedures.

- The VCU Rules and Procedures are printed in the [VCU Insider](#) and also are available at the [Office of Student Conduct and Academic Integrity](#).
- The Division of Student Affairs publishes an [index of policies, guidelines and procedures](#).
- The VCU Integrity and Compliance Office maintains the latest versions of all universitywide policies and procedures on its [Policy Library website](#).
- The [VCU Graduate Bulletin](#) documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at VCU. It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the Graduate Bulletin, as well as the academic regulations in individual school and department publications and on program websites; however, in all cases, the official policies and procedures of the University Graduate Council, as published in the Graduate Bulletin and on the [Graduate School website](#), take precedence over individual program policies and guidelines.

## VCU Honor System

VCU recognizes that honesty, truth and integrity are values central to its mission as an institution of higher education. Therefore, all students are subject to the [VCU Honor System \[PDF\]](#). All graduate students are responsible for being familiar with provisions of this document.

Academic dishonesty is the giving, taking or presenting of information or material by students with the intent of unethically or fraudulently aiding themselves or others on any work that is to be considered in the determination of a grade or the completion of academic requirements. Students in doubt regarding any matter related to the standards of academic integrity in a given course or on a given assignment should consult with the faculty member responsible for the course before presenting the work.

## Grade review procedures

Graduate students at VCU have a right to appeal actions of an academic nature. If such action involves a course grade, the Grade Review Procedures as published in

the Rules and Procedures should be followed. If such action involves computing, the [Computer and Network Resources Use Policy](#) should be followed.

## Dismissal from a graduate degree program

In addition to those standards of conduct described in VCU Rules and Procedures and the VCU Honor System, students enrolled at the university may be dismissed from the academic programs in which they are enrolled for failure to meet prescribed academic program requirements. Students appealing dismissal from their graduate degree programs should first pursue appeals at the program/department and/or the school level. After receiving the program/department and/or school decision, students have the option of filing an appeal with the graduate dean in the process outlined in the [Appeal process for students dismissed from a VCU graduate degree program](#).

Other university policies that might impact graduate students include, but are not limited to, the following:

- Alcohol and Drug Policy
- Care and Ethical Use of Animals in Research and Education at VCU
- Information Security Policy
- Intellectual Property Policy
- Misconduct in Research and Scholarly Activities
- Non-discrimination on the Basis of Disability
- Prohibition of Sexual Harassment
- Responsible Conduct in Research and Scholarship
- VCU IRB Written Policies and Procedures

External agencies with policies that might impact graduate students include, but are not limited to, the following:

- [State Council of Higher Education for Virginia – SCHEV](#)
- [Southern Association of Colleges and Schools Commission on Colleges – SACS-COC](#)

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## Degree requirements

The minimum course requirements, rules of admission to degree candidacy, language requirements, thesis or dissertation requirements, comprehensive examinations, transfer of credits, and the like are specified for each program in the individual program sections on this bulletin Web site. Additionally, many schools, programs and departments maintain Web sites and publish special brochures, student manuals and program guides that may be requested from the appropriate dean or program director.

**In all cases, the official policies and procedures of the University Graduate Council, as published in the Graduate Bulletin and on the [Graduate School Web site](#), are fully applicable to all graduate programs and graduate students, both on- and off-campus, and take precedence over individual program policies and guidelines.** Graduate students should contact the Graduate School with questions regarding any discrepancies.

The university reserves the right to revoke any degree, certificate or other university recognition for cause. In addition, any time following the award of a degree, certificate or other university recognition, the university reserves the right to take appropriate action, including, but not limited to, the revocation of such degree, certificate or other university recognition, on the basis of academic misconduct discovered subsequent to, but which occurred prior to, the awarding of the degree, certificate or other university recognition. More specifically, when an action that constitutes a violation of the VCU Honor System leads to a finding that invalidates a major piece of work required for a degree, certificate or other university recognition so that the validity of the degree, certificate or other university recognition is jeopardized, the student or former student will be subject to a sanction that may include (a) rejection of a thesis, dissertation or other work, (b) revocation of a certification or other university recognition or (c) revocation of a degree.

## Academic advising

Students are responsible for the proper completion of their academic programs. They must be familiar with the Graduate Bulletin (catalog) as well as all additional academic regulations promulgated by individual schools and departments.

The offices of the deans and department chairs, in cooperation with the advisers and faculty, endeavor to follow the academic progress of all students, and students are encouraged to seek counsel whenever there is a need. If advisers are unable to resolve problems satisfactorily, they will refer students to others as deemed appropriate and necessary.

In order to aid advising, students are responsible for maintaining current mailing addresses on file with the [Office of Records and Registration](#), as well as with the schools and departments in which they are enrolled.

Students also are required to obtain an official VCU student e-mail account within one week of the beginning of the first semester of enrollment and are responsible for reading in a timely fashion university-related communications sent to their official VCU student e-mail accounts. Information on how to set up an account is available online at <http://mymail.vcu.edu>.

**The academic advising process requires periodic checks by graduate students, advisers and program directors to ensure the accuracy of students' academic histories. Unofficial academic histories are available on line through eServices, or official transcripts may be obtained for a fee from the Office of Records and Registration.**

**It is the responsibility of all graduate students to:**

1. Check their records no later than the end of the add/drop registration period at the beginning of each semester to ensure that their registrations are correct and
2. Check their records at the end of each semester to ensure that their academic histories are current and correct.

Students who wish to appeal assigned grades must follow the Grade Review Procedure as articulated in this Bulletin (catalog) at [www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30071](http://www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30071) and as published in [VCU Rules and Procedures](#).

Requests for any other changes to an academic history must be submitted in writing by students to their graduate program directors no later than 14 calendar days after the beginning of the following semester (for the fall semester, 14 calendar days after the beginning of the spring semester; for the spring or summer semester, 14 calendar days after the beginning of the fall semester).

Graduate students, program directors and academic school deans/designees are required to conduct a final review of all academic histories as part of the application-to-graduate check-out process as articulated in this Bulletin (catalog) at [www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30072](http://www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30072) and on the Graduate School website. A student's signature on the application to graduate is acknowledgement that the student has reviewed the academic history and that it is correct. Final approval signatures by graduate program directors and academic school deans/designees on the final application to graduate confirm that the student's academic history is complete, correct and final and that no future requests for changes to the academic history will be considered once the student has been approved to graduate.

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University Graduate Council

## Exceptions

Exceptions to graduate policies must be approved by the dean of the Graduate School. Requests for exceptions to Graduate School policies are to be made in writing by students to their graduate advisers/program directors. The graduate advisers/program directors will forward their recommendations, along with copies of student requests and supporting documentation, to the school dean/dean's designee, who will review and approve or disapprove recommendations. Recommendations approved by the school dean/dean's designee will then be forwarded to the dean of the Graduate School, who represents the University Graduate Council.

## Withdrawal from a graduate program

Graduate students in good academic standing, according to the academic rules and regulations articulated in the Graduate Bulletin and by individual graduate programs, may request to withdraw from a graduate program at any time. Students should notify their graduate program directors as soon as possible of the intent to

withdraw from the program. The program director will then notify the Graduate School via the Special Action Form procedure. The effective term of withdrawal is recorded as the end of the last term of active registration.

Withdrawal from a program does not constitute a withdrawal from course work. Students who wish to also withdraw from classes should do so according to the procedures in the ["Withdrawal from classes"](#) section of the Bulletin.

Students who are not in good academic standing should be reviewed for possible termination from their academic programs as prescribed in the Graduate Bulletin (see [Appeal process, students terminated from a VCU graduate program](#)).

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University Graduate Council

## Appeal process, students terminated from a VCU graduate program

### A. Termination process

1. Termination is initiated at the program/department level by advisers/graduate program directors/department chairs via a special action form indicating the reason with relevant documentation attached. Reasons for termination may include but are not limited to:
  - Academic (D or F in class, too many grades of C, as determined by the student's academic program in conjunction with Graduate Council policy, GPA below 3.0, failure of comprehensive exams, lack of progress on/unsuccessful defense of thesis/dissertation),
  - Discontinuous enrollment
  - Exceeding time limit
  - Honor policy violation
  - Academic misconduct
  - Professional misconduct
2. Request for termination is forwarded to the school dean/dean's designee, who reviews the action, signs the form and forwards it to the graduate dean within 10 business days.
3. The graduate dean/dean's designee reviews the action, signs the form, notifies the Office of Records and Registration and sends a termination letter through certified mail to the student. This letter must include a statement of the student's right to appeal and inform the student that appeals must be initiated at the program/department and/or school level within 10 business days after receipt of the letter.

### B. Appeals process

#### Preamble

Virginia Commonwealth University, through its Graduate School, defines minimum standards for admission and sets general rules governing eligibility for continuation. However, the individual graduate programs, through their respective graduate faculty and graduate program procedures, exercise principal responsibility for evaluating graduate student work. It is assumed that most disputes over evidence of unsatisfactory progress will be reconciled through discussions between faculty and students at the school/department/program level.

It is important that each graduate student be fully informed, not only of the VCU Graduate School Policies and Procedures, but also of any additional departmental program requirements beyond those established by the Graduate School. A copy of each departmental graduate policy statement should be readily available to all graduate students. The department should inform graduate students of degree requirements and associated school/program/department procedures at the time of matriculation.

A student may appeal termination from a graduate program under the following procedures.

1. The student has the burden of proof in all appeals.
2. The student must initiate the appeal process at the program level within 10 business days after receipt of the graduate dean's certified termination letter and according to the program/department and/or schools/colleges appeal processes. All program/department and/or school/college appeal processes should be exhausted prior to initiating an appeal to the graduate dean.



3. If all program/department and/or school/college appeal processes fail to resolve the issue, the student must provide the graduate dean with written notification of appeal, to include justification and all supporting documentation (correspondence and other paperwork leading up to the termination), within 10 business days of the school/college decision. All documentation must be provided at the time of written notification of appeal.
4. The graduate dean provides the graduate program director and school/college dean with copies of the student's appeal and asks the graduate program director/dean/department chair to provide the Graduate School with their response, including copies of correspondence and any other supporting documentation that led to the termination. The graduate program director and school dean must respond to the graduate deans request for information within 10 business days.
5. The graduate dean will review the materials and may refer the matter to the Admissions and Academic Standards Committee of the University Graduate Council. The committee is composed of faculty members from various divisions of the university plus one ex-officio voting member from the Graduate School. AAS members who have direct knowledge of the students case will be recused. A minimum of four members must be present to constitute a quorum. The committee will convene to review the documentation and consider the positions of the parties. At its meeting, the committee will hear presentations from and ask questions of the student and representatives of the school/department/program. The student and the school/department /program representative may each bring up to two persons who may provide support and advice but who may not speak for the parties.
6. After considering the materials submitted and the presentations by the parties, the committee will convene in closed session and decide, by majority vote, whether to recommend that the graduate dean uphold or reverse the termination. In the event of a less than unanimous decision, both opinions will be communicated to the graduate dean. The graduate dean renders the final decision and notifies the student in writing within 10 business days by certified mail to the students official address on file with the university.
7. The student may be allowed to register for courses during the pendency of the appeal, understanding that he/she will be dropped retroactively if the termination is upheld.

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## Student load

Student load is the total number of credits for which students are enrolled in any semester. Students may be either full time or part time, dependent upon program rules. Students who are fully funded as VCU graduate assistants with tuition remission are classified as "full time" during any semester in which they enroll for nine or more credits (three during the summer if funded on a 12-month stipend). Departmental requirements vary; therefore, funded students should verify expected course loads with their graduate program directors.

The maximum number of credits for which students may enroll in any semester without special permission is 15. More than 15 credits is an overload. More than 15 credits may result in increased tuition. Permission to enroll for more than 15 credits may be granted upon the written recommendation of the adviser, through departmental governance procedures, to the dean of the Graduate School.

Each summer course is designed to provide the equivalent of one semester's work. With careful scheduling, it is possible for students to earn as many as 15 credits during the summer if course work extends over the full summer semester calendar. Permission to enroll for more than 15 credits in the summer semester may be granted upon the written recommendation of the adviser through departmental governing procedures to the dean of the Graduate School.

Summer success is predicted on the academic standard of one credit per week. Six credits in five weeks or nine credits in eight weeks is considered a normal load, but VCU does not permit six credits in four weeks or nine credits in six weeks. Suggested scheduling combinations are printed in the Summer Schedule of Classes or are available online at [www.vcu.edu/schedule](http://www.vcu.edu/schedule).

Graduate courses are not offered during the Winter intersession.

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University Graduate Council

## Definition of credit hour

A credit hour is defined as a reasonable approximation of not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately 15 weeks, or the equivalent amount of work over a different amount of time. Credit is based on at least an equivalent amount of work for other academic activities including laboratory work, internships, practice, studio work and other academic work leading to the award of credit hours and is established by individual programs. This definition represents the minimum standard. Student time commitment per credit hour may be higher in individual programs.

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University Graduate Council

## Attendance and enrollment policies

### Class attendance

Instructors are responsible for clearly informing students in writing of the attendance requirement for each course and the consequences of poor attendance. Students must abide by the requirements as announced in each separate class even though the requirements may vary widely among courses.

The instructional programs at VCU are based upon a series of class meetings involving lectures, discussions, field experiences, special readings and reporting assignments. Therefore, it is important for each student to be in attendance on a regular basis. A student who misses a class session is responsible for completing all material covered or assignments made during the absence.

Students having attendance problems should contact the instructor to explain the reasons for nonattendance and to discuss the feasibility of continuing in the course. If the student has fallen so far behind that the successful completion of the course is impossible, the student should withdraw from the course before the last day to withdraw from a course as published in the academic calendar.

### Religious observances

It is the policy of VCU to accord students, on an individual basis, the opportunity to observe their traditional religious holidays. Students wishing to observe a religious holiday of special importance must provide advance written notification to each instructor by the end of the second week of classes. On these dates, instructors are encouraged to avoid scheduling one-time-only activities that cannot be replicated. Through such strategies as providing alternative assignments or examinations, granting permission for audio or video recordings or the use of the Internet, faculty members are expected to make reasonable academic accommodations for students who are absent because of religious observance.

### Mandated short-term military training

Students called to report for mandated military training must provide advance written notification to each instructor several weeks in advance of training. Faculty members are expected to make reasonable academic accommodations for students who are absent because of mandated short-term military training (short-term is defined as several days not to exceed two weeks).

## Enrollment

Any person engaged in graduate study at VCU must enroll each semester in which he/she is engaged in any form of study at VCU that involves use of university facilities, laboratories/studios and/or libraries, or who is supervised by or consults with a faculty member concerning graduate work on a project, work of art, thesis or dissertation.

## Continuous enrollment for degree-seeking graduate students

### Continuous enrollment – Pre-candidate

Once admitted to a degree program, a graduate student is expected to comply with minimum enrollment of one course per 12-month period from the beginning of his/her program.

### Continuous enrollment – Candidate

A graduate student who has completed course requirements for a degree must register for at least one credit at VCU each fall and spring semester

until the degree is awarded. Students must be enrolled during their graduation semesters.

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## Residence for Ph.D. programs

At many universities, doctoral students are required to maintain at least one to two years of continuous full-time enrollment or “residence.” At VCU, each doctoral program will establish its own residency requirements.

## Change in registration

Once students have registered for classes, changes in registration must be made according to the procedures listed below. Whenever students make any changes in registration, they should keep copies of their new schedules as verification of the changes. Changes in registration may affect financial aid. Students are advised to consult with a financial aid counselor before making any changes to their enrollment status. See the “Financial Aid” section of this chapter for detailed information

## Cancellation of registration

To cancel registration, students must notify, in writing, the Office of Records and Registration before the end of the “Add-Drop” period, or drop all classes using the Web Registration System. Refunds are issued in accordance with procedures described under the refunds section of this chapter. For readmission guidelines, refer to the admissions section.

## Auditing graduate classes

Class size permitting, students may register for courses on an audit basis. Auditing a course means students enroll in courses, but do not receive academic credit upon completion of the courses. Students who register on an audit basis are subject to attendance regulations of that class and, unless otherwise specified at the discretion of the instructor, are subject to the same course requirements as other students in the class. Students who register on an audit basis may be administratively withdrawn by instructors for a violation of class requirements for audit students, before or after the normal withdrawal deadline as posted on the [VCU Academic Calendar](#). Audit students are charged the regular rate of tuition and fees. An audit course is counted as part of students’ semester load in terms of classification as full-time students. Courses taken for audit, however, do not satisfy minimum enrollment requirements for students receiving graduate teaching or research assistantships, graduate fellowships, or university graduate scholarships. **Students may register for audit only during add/drop and late registration periods as a new registration and not as a change from credit to audit. Changes in registration status from audit to credit or from credit to audit will not be approved after the last day of add/drop registration.** The grade of AU is not included in the calculation of the GPA.

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## Leave of absence and withdrawal policies

**Leave of absence.** Graduate students may request leaves of absence from their programs through written appeals to their advisers. The graduate advisers/program directors will forward the requests to the appropriate school dean/dean designee who, following departmental governance procedures, will forward their recommendations and any supporting documentation to the dean of the Graduate School who will respond for the university. Students who are out of compliance with continuous enrollment policies ([see policy on Continuous enrollment for degree-seeking graduate students](#)) and who have not been granted approved leaves of absence by the graduate dean must reapply for admission to VCU and to their graduate degree programs. **Graduate students with approved leaves of absence are exempted from continuous enrollment requirements for the LOA period.** Students should note that while leaves of absence temporarily suspend continuous enrollment requirements, they do not extend time limits for completion of degrees. ([See policy on Exceptions.](#))

Leaves of absence must be requested and approved before or within a current semester. **Requests for retroactive leaves of absence will not be approved.**

The posting of the leave of absence on the student’s academic record prevents registration for the approved leave of absence period. If the student wishes to

return to academic study before the end of the approved leave of absence period, the Graduate School must be notified via the Special Action Form process so that the leave of absence is cancelled and the registration hold removed.

**Withdrawal from classes.** To withdraw officially from VCU courses, students must submit complete Official Withdrawal Forms to the Office of Records and Registration by the official withdrawal date as published in the official [VCU Calendar](#). The Official Withdrawal Form is obtained from the Office of Records and Registration (Monroe Park Campus: Harris Hall, First Floor; MCV Campus: Sanger Hall, Room 1-055). Students may also withdraw on line via VCU E-services. Failure to complete this process may result in the assignment of failing grades in all or some of the courses.

A grade of withdrawn (W) will be recorded on the permanent student academic record for all courses from which students officially withdraw.

**Health-related withdrawals.** While graduate students are expected to work toward completion of their degrees without interruption, health-related problems may necessitate an interruption of their studies.

For a protracted illness, a student may choose to ask for an approved leave of absence (see leave of absence policy above).

Some students may experience medical conditions that make them unable to complete their studies once a semester is in progress. If this occurs before the last day of add/drop registration, students should drop their classes via eServices. If an illness occurs after add/drop but before the last day to withdraw, per the [academic calendar](#), students should withdraw from their classes through the normal withdrawal process via eServices.

After the last day to withdraw but prior to the last day of classes per the academic calendar — **and before a final class grade has been assigned and/or posted to the academic history** — students with medical problems should petition their academic deans (or dean designees) for a medical withdrawal from all courses. Students must present documentation of their medical condition that establishes a significant degree of impairment in continuing their studies. This documentation must include a letter, written on letterhead, from a licensed health care provider that establishes the dates of treatment, the diagnosis and the degree of impairment that the condition has created. The letter should also provide the date when the student became unable to attend classes, when the impairment was considered significant enough to affect academic performance and the anticipated date of return to school. The medical withdrawal should be submitted to the Graduate School via the Special Action Form process.

The student’s transcript will reflect a grade of W for all courses approved for a medical withdrawal taken that semester. No special designation for medical withdrawals is made on the transcript, and tuition and fees are levied in the same manner as other withdrawals (see withdrawal from courses policy above). Medical withdrawals may impact future financial aid in relation to Satisfactory Academic Progress.

In the event that a student’s health problem poses a danger to the student, to patients or to others with whom the student may come in contact, and the student is unable or refuses to initiate steps to withdraw as stated above, administrative withdrawal of the student may be made by the dean of the Graduate School upon consultation with the appropriate faculty and a qualified physician.

Because curricular and course content changes may occur and a student’s progress toward a degree may be affected adversely because of an extended absence, specific time periods may be imposed by individual schools with respect to the length of time allowed for absence from school. If there is a delay in return beyond the allotted time period without written consent of the dean of the Graduate School, the student may petition for return with advanced standing.

Prior to returning to school, the student must submit a statement from a physician documenting that the condition that necessitated the withdrawal has been corrected to a point where the student can complete successfully all curriculum requirements with reasonable accommodation including classroom, laboratory, clinical and fieldwork experience.

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University Graduate Council

## Immunization requirements

The commonwealth of Virginia and VCU require that all full-time students supply validated immunization records to University Student Health Services. This requirement must be completed prior to registering for second semester. Failure to meet these requirements will result in a hold placed on the student's second

semester registration. The hold can be removed only upon receipt of the students documented records.

The immunization record must be completed fully and accurately. There are two ways a student may fulfill all requirements:

1. Students may have their health care provider transfer the information from their medical records and sign the form.

or

2. Students may complete the top demographic section of the Certificate of Immunization and attach a copy of official documents from undergraduate institutions, military records, high school or other records that fulfill all requirements to the Certificate of Immunization.

A copy of the Certificate of Immunization, which details the necessary immunizations, is available on the student health Web site at: [www.students.vcu.edu/health/docs/immunizations.pdf](http://www.students.vcu.edu/health/docs/immunizations.pdf) [PDF].

Students who cannot provide documented evidence of all required immunizations must see their health care provider, health department or Student Health Services to complete all requirements.

## Change of graduate degree program

Students wishing to change to different graduate degree programs should obtain new application forms from the [Graduate School Web site](#). Students will have to submit new applications to the new programs with all materials required of applicants to that program. The dean of the Graduate School will work with the administrators of the two programs to facilitate the admission process for eligible students.

## Transfer credit

A maximum of 30 percent of the didactic hours required for a graduate degree or any graduate certificate program may be transferred from another VCU program or outside institution and, if not applied previously toward another degree, may be applied toward a degree. Prerequisite course work that does not count toward the VCU degree may not be transferred.

Transfer grades for course work taken at VCU, either as a nondegree-seeking student or in a previous graduate matriculation for which a degree was never awarded, are included in the calculation of the VCU graduate grade-point average and all other graduate statistics. Transfer grades for course work taken at another institution are not recorded on the VCU transcript (only the names of courses, source institutions and credit hours) and are not included in the calculation of the VCU graduate grade-point average and other graduate statistics.

Recommendations regarding transfer credit are initiated at the program and academic school levels and reviewed and approved by the Graduate School. All matriculated students must obtain final written approval from the Graduate School for course work approved for transfer **before** registering for course work at another institution. Individual schools/programs may have more stringent requirements. Requests for transfer of course work must include an official copy of the transcript from the college or university where the course work was taken and a VCU Graduate School Transfer Equivalency form (see Graduate School website/forms).

**Graduate credit hours earned toward a VCU certificate may be applied one time to degree requirements for master's or Ph.D. programs. Graduate credit hours earned toward a VCU certificate may be applied toward only one certificate.** The determination of the acceptability of specific courses to be used for both the certificate and the graduate degree will be the responsibility of that master's or Ph.D. program or school.

All transfer work must be at the A or B grade level from a regionally accredited college or university. "Credit" or "pass" grades can be accepted only if approved by petitioning the Graduate Advisory Committee or equivalent of the student's school or college. Students must be in good standing both at VCU and at the institutions from which the credits were earned. Some programs will not accept credits earned as a nondegree-seeking graduate student for transfer. VCU will not accept credits that do not apply to a graduate degree at the offering institution for transfer, nor will it accept credits from unaccredited institutions for transfer. These criteria apply to all domestic and international institutions.

Course work taken under the auspices of any study abroad program, including the study abroad program at VCU, is classified as course work taken at an international institution for purposes of determining if the course work may count toward a VCU graduate degree. Registration for such course work does not

guarantee that the course work will count toward a VCU graduate degree. All study abroad graduate course work is subject to the same review and approval process if the course work is to count toward a VCU graduate degree.

Revised 5/11/2010; 5/10/2011

University Graduate Council

## Credit for military service, career or life experience

The Graduate School does not grant graduate-level credit for any type of military service or career or life experience.

The Graduate School may grant credit for formal military service school graduate-level courses that have received positive recommendation by the Commission on Accreditation of Service Experiences of the American Council on Education as stated in the ACE's "[Guide to the Evaluation of Educational Experiences in the Armed Services](#)." Recommendations regarding the transfer of military course work are initiated at the program and academic school levels and reviewed and approved by the Graduate School and must meet all other criteria for transfer credit as articulated in the transfer credit policy.

Revised 5/10/2011; 5/14/2013

University Graduate Council

## Degree candidacy

A graduate student admitted to a program or track requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master's or doctoral status according to the degree candidacy requirements of the student's graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student's faculty regarding the student's academic achievements and the student's readiness to proceed to the final research phase of the degree program.

Degree candidacy requirements vary from program to program and may include but are not limited to such milestones as successful completion of all or a portion of all required didactic course work, the passing of written and/or oral comprehensive examinations, the identification of the thesis/dissertation adviser and/or committee, and/or the successful defense of the thesis/dissertation prospectus.

Upon satisfactory completion of degree candidacy requirements, the graduate student must submit a Graduate School [notice of Admission to Master's or Doctoral Degree Candidacy](#) to his/her program director. The student's signature acknowledges that he/she has read and understands the policies regarding research involving human or animal subjects (Information on human and animal subjects can be found online at [www.orsp.vcu.edu/IRB-Home.htm](http://www.orsp.vcu.edu/IRB-Home.htm) and [www.orsp.vcu.edu/IACUC-Home.htm](http://www.orsp.vcu.edu/IACUC-Home.htm).) as well as [continuous enrollment requirements](#). Both the program director and the school's dean or dean's designee must sign the form to confirm the student's eligibility for admission to degree candidacy and forward it to the graduate dean for final approval and recording of admission to degree candidacy. The graduate dean will formally notify the student of admission to degree candidacy.

The degree candidacy form must be submitted **before** the student formally begins the final thesis/dissertation/research project **but no later** than the semester preceding the semester in which the student graduates. Failure to submit the degree candidacy form in a timely manner may delay graduation.

A graduate student approved for degree candidacy must register for at least one graduate credit hour at VCU each fall and spring semester until the degree is awarded. Students must be enrolled during their graduation semesters. Graduate students with approved leaves of absence are exempted from continuous enrollment requirements for the LOA period. **Students should note that while a leave of absence temporarily suspends the continuous enrollment requirement, it does not extend the time limit for completion of the degree.**

Revised 5/8/2012

University Graduate Council

## Theses/dissertations

### Comprehensive examinations

Comprehensive examination requirements and administration of the thesis/dissertation process vary by program and academic school. Graduate students should refer to the guidelines established by their programs regarding specific program requirements. In addition, graduate students should refer to the Thesis



and Dissertation Manual found on the [Graduate School website](#) for guidelines regarding the preparation and submission of theses and dissertations and for scheduling the final defense.

Master's degree candidates may have a thesis requirement — or its equivalent in the form of a research project, performance, exhibit or other production. In some programs, master's degree candidates may elect a non-thesis option. In such cases, the program may allow a candidate to change from the thesis to the non-thesis option, or vice versa, once. Such action requires written approval of the department head and the faculty adviser and/or the student's advisory committee.

All doctoral candidates are required to prepare dissertations and the associated additional submission requirements as articulated in the Thesis and Dissertation Manual.

At the time of defense, a thesis or dissertation must be approved by members of a student's advisory committee with no more than one negative vote. A committee member's approval is given by signing the [Electronic Thesis/Dissertation \(ETD\) Approval form](#). A disapproving committee member must also sign the approval form as a dissenting member and must provide a written dissenting opinion to be sent to the Graduate School.

Revised 5/8/2012  
University Graduate Council

## Graduate advisory committees

Graduate advisory committees shall be appointed for each master's degree candidate for whom there is a requirement to produce a thesis or its equivalent in the form of a research project, performance, exhibit or other production. The committee will coordinate and supervise the preparation of the thesis or its equivalent. The committee shall have a minimum of three faculty members, one of whom should be from a discipline other than the discipline of the candidate. The chair of the committee will be designated as the candidate's faculty adviser. Departments/program directors will appoint advisers for master's degree candidates for whom a thesis or its equivalent is not required. Every member of the committee must hold graduate faculty or affiliate graduate faculty appointment. The chair and at least one other committee member must hold VCU graduate faculty status. It is expected that all members of the committee will be present at any thesis proposal and thesis defense. In the event that a single member of the committee is unable to attend, the committee may meet with the written approval of the graduate program director. If more than one member of the committee is unable to attend, the defense must be rescheduled. The chair must be present for the defense of a thesis proposal and the final thesis.

A graduate dissertation committee shall be appointed for each doctoral candidate. The committee will have a minimum of four faculty members, including a chair, who will serve as the candidate's faculty adviser. At least two members must be from within the candidate's discipline and at least one from another discipline. Every member of the committee must hold graduate faculty or affiliate graduate faculty appointment. The chair and at least two other committee members must hold VCU graduate faculty status. It is expected that all members of the committee will be present at the dissertation proposal and dissertation defense. In the event that a single member of the committee is unable to attend, the committee may meet with the written approval of the graduate program director. If more than one member of the committee is unable to attend, the defense must be rescheduled. The chair must be present for the defense of a dissertation proposal and the dissertation defense.

Upon satisfactory completion of all program requirements for admission to candidacy, doctoral matriculants will take written and/or oral comprehensive examinations administered by their major departments or schools. Successful completion of the examinations shall entitle students to advance to doctoral degree candidacy status. Candidates are then allowed to proceed with the research and preparation of their dissertations and any other doctoral degree requirements designated by their departments.

In the event of failure, students may be permitted to retake comprehensive examinations one time only. The re-examination requires the approval of the appropriate graduate program committee.

Revised 5/14/2013  
University Graduate Council

## Graduate faculty and affiliate graduate faculty roles and responsibilities

[VCU Graduate School Bylaws](#) articulate eligibility criteria for membership on the graduate faculty and provisions for affiliate graduate faculty appointments. All members of a graduate advisory or thesis or dissertation committee must be a member of the graduate faculty or hold an appointment as an affiliate graduate faculty member. All graduate faculty may chair thesis committees; however, only graduate faculty holding the Ph.D. or equivalent degree may chair a dissertation committee. An affiliate graduate faculty member may advise and serve, but not chair, thesis or dissertation committees.

Appointment to affiliate graduate faculty status must clearly articulate the roles and responsibilities and the duration of the appointment. Appointment for purposes of serving on a graduate advisory or thesis or dissertation committee authorizes the affiliate graduate faculty member to fully participate in all activities defined for the group by the individual program guidelines, except for chairing the committee. If the administration and evaluation of comprehensive examinations is explicitly articulated as a responsibility of the graduate advisory or thesis or dissertation committee, then any affiliate graduate faculty appointed to the committee may administer and evaluate the comprehensive examination. If comprehensive examinations are administered and evaluated by a different committee, then an affiliate graduate faculty member may administer and evaluate the comprehensive examination only if such a responsibility is articulated clearly in the recommendation for affiliate graduate faculty membership by the academic school dean and approved by the graduate dean.

Revised 5/10/2011  
University Graduate Council

## Grades of satisfactory (S), unsatisfactory (U) or fail (f) in thesis/dissertation courses

All thesis and dissertation credits are to be graded each semester as satisfactory (S), unsatisfactory (U) or fail (F). There is no limit to the number of these credits a student may take while pursuing completion of the degree. Receipt of the grade of U is formal notification to the student of unsatisfactory progress. A student who receives a final grade of F in the thesis or dissertation will be terminated from the graduate program. A grade of S or U is not included in the calculation of the GPA. A grade of (I) incomplete may not be assigned for a course approved for satisfactory, unsatisfactory or fail (S/U/F) grading. **A grade of U is a permanent grade. Future satisfactory performance is reflected in the assignment of the grade of S in subsequent semesters. A student who receives three Us in a thesis/dissertation course will be terminated from the program.**

Revised 5/8/2012  
University Graduate Council

## Electronic theses/dissertations – mandatory

Electronic Theses and Dissertations (ETDs) are digital representations of the traditional work completed by graduate students in partial fulfillment of requirements for graduate degrees. An ETD can be a simple textual document converted to a standard electronic format such as Adobe Portable Document Format (PDF) or a complex combination of images and formats.

The VCU Graduate School Thesis and Dissertation website, as developed by the University Graduate Council and VCU Libraries, serves as a guide for the preparation of electronic graduate theses and dissertations for graduate students in all programs within the university. Information and a video tutorial are available online at [www.graduate.vcu.edu/community/thesis.html](http://www.graduate.vcu.edu/community/thesis.html).

## Thesis/dissertation submission deadlines

All requirements for theses/dissertations must be completed by the deadline published in the [Academic Calendar](#) of the semester in which the candidate plans to graduate, including:

- Final defense of thesis/dissertation
- ETD Approval Form with all approval signatures, including the graduate dean's and, if applicable, documentation of IRB or IACUC approval number
- Submission of the ETD to the [VCU Digital Archives](#) according to instructions on the [VCU Graduate School Thesis and Dissertation webpage](#)

(Candidate should confirm with adviser/program director all internal schedules for submission of copy, defense and approval.)

- Survey of Earned Doctorates [All doctoral students must complete the Survey of Earned Doctorates (SED). In order to complete the survey, go to: <https://sed.norc.org/survey>. Refer to the Thesis and Dissertation Manual on the [VCU Graduate School Thesis and Dissertation webpage](#) for further information.]
- Publication with ProQuest (All doctoral dissertations must be published with ProQuest. Dissertations are submitted directly by the student through the [UMI/ProQuest's ETD Administrator site](#) for VCU. Submitting to ProQuest does not satisfy the university's requirement of submission. You must submit to the [VCU Digital Archives](#) separately in order to fulfill this requirement for graduation.)

Revised 5/11/2010; 5/10/2011  
University Graduate Council

## Satisfactory academic progress

Students must continue to make satisfactory progress toward their degrees. Unsatisfactory grades and unprofessional conduct are areas that may warrant review for possible termination from their programs.

Specifically, students may not present courses receiving less than a C for fulfilling degree requirements.

At the end of each semester, graduate faculty advisers and program directors will review the academic progress of all graduate students in their programs. The academic standing of any graduate students who receive multiple grades of C or grades of D or F will be reviewed for possible termination from their programs. Although the grade of U is not included in the calculation of the graduate GPA, graduate students who receive one or more grades of U will be considered for possible termination.

Students who have completed all minimum degree requirements but who are out of compliance with minimum graduation requirements (i.e., graduate grade-point average, 20 percent C or below, 50 percent 500-/600-level course work, etc.), may be allowed, with the permission of their graduate faculty advisers, program directors, academic deans/dean designees and the Graduate School to take additional course work to meet minimum University Graduate Council graduation requirements. Requests for such actions must be processed via the special action form according to the instructions articulated in the [Exceptions policy](#) in the Graduate Bulletin. Students will have a maximum of one calendar year to complete such additional requirements. At the end of that time, if students are still out of compliance, they must be terminated from the program for lack of academic progress.

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University Graduate Council

## Time limit for completion of requirements and eligibility of courses

The time limit for a graduate degree will not extend beyond a period of six years for graduate certificates and master's degrees and eight years for doctoral degrees.

Course work completed before matriculation and applied toward the degree, including course work at VCU and that transferred from other institutions, will be evaluated by the program/department to determine whether it can be used to fulfill degree requirements. For course work that was taken more than eight years prior to the completion of the VCU degree, the program/department will evaluate the course work for acceptability and report those courses deemed acceptable to the dean of the Graduate School. ([See policy on Exceptions.](#))

Revised 5/11/2010; 5/10/2011  
University Graduate Council

## Graduation requirements

All degrees are conferred by the VCU Board of Visitors upon recommendation of the graduate faculty.

Candidates for degrees are eligible for graduation upon completion of all academic requirements in effect at the time of official matriculation into the program, provided the students are continuously enrolled and provided the requirements are met within the time limit specified by the school or program and the University Graduate Council. Students failing to satisfy the time requirement and who are

readmitted to their programs shall satisfy requirements in effect at the time of readmission.

Degrees are granted at the close of the semester or summer session in which students complete their work. Degrees will not be granted unless all financial obligations have been resolved with VCU's Office of Student Accounting. Students must be enrolled at the time of application (i.e., the semester in which students graduate).

### No degrees will be conferred unless students make formal application to graduate.

Degrees will be awarded and diplomas issued in a current semester only. Students who do not submit/complete their applications to graduate in the semester in which they actually complete their programs will be awarded their degrees in the semester in which they apply to graduate. In such cases, a text notation will be added to the transcript to indicate the date that course work for the degree was completed. Program directors and academic school deans must submit a special action request to the Graduate School to this effect that also includes a request for a waiver of the requirement that the students must be enrolled at the time of application/reapplication. A request for a waiver of the enrollment requirement must document that the student has completed all degree requirements and is not using any university resources (i.e., libraries, computer labs, faculty advising, etc.)

Graduation applications must be submitted by students to their advisers or deans no later than the dates indicated in the university's academic calendars on the Web at [www.vcu.edu/academiccalendars](http://www.vcu.edu/academiccalendars). Students should schedule conferences with their advisers well ahead of the deadline and should note that the application requires the approval of the adviser, the department chair or the school director of graduate studies, and the school dean. **Credit is applicable toward only one degree unless students are admitted to a course of study that allows a defined number of shared courses. Graduate credit hours earned toward a VCU certificate may be applied one time to degree requirements for master's or Ph.D. programs. Graduate credit hours earned toward a VCU certificate may be applied toward only one certificate.** The determination of the acceptability of specific courses to be used for both the certificate and the graduate degree will be the responsibility of that masters or Ph.D. program or school.

Revised 5/11/2010  
University Graduate Council

## Graduation checklist

The total number of semester credits required for graduation depends upon the degree program. Specific information may be found under degree program descriptions. In addition to the specific requirements listed by the department, the following graduation checklist for graduate students, advisers and program directors summarizes all general requirements for graduation as determined by the University Graduate Council.

- All provisional or probationary conditions of admission have been met.
- Candidates enrolled at time of application/reapplication to graduate (i.e., semester in which candidates plan to graduate).
- Overall graduate GPA is greater than or equal to 3.0.
- Graduate GPA based on all graduate course work attempted after acceptance into program.
- For repeated courses, both original grade and repeat grades included in calculation of graduate GPA.
- No more than six credit hours or 20 percent of total credit hours attempted (whichever greater) at C or below level (C, D, F). Individual programs reserve the right to establish more stringent requirements regarding the acceptance of C grades. Specifically, students may not present courses receiving grades less than C for fulfilling degree requirements.
- No course work approved for transfer below grade of B; no course work approved for transfer included in calculation of GPA.
- Graduate course work only (500 level or higher) may be applied to a graduate degree with at least one half of required course work designated exclusively for graduate students (600 or higher).
- All Incompletes (I) converted to letter grade by last day of class of semester in which candidate plans to graduate.

- All grades of Continued (CO), Progress (PR) and No Grade (NG) converted to letter grades by last day of class of semester in which candidate plans to graduate.
- All course work taken within prescribed time limits (master's, six years; Ph.D., eight years with any extensions approved by Graduate School).
- All requirements for theses/dissertations must be completed by the deadline published in the [Academic Calendar](#) of the semester in which the candidate plans to graduate, including:
  - Final defense of thesis/dissertation
  - ETD Approval Form with all approval signatures, including the graduate dean's and, if applicable, documentation of IRB or IACUC approval number
  - Submission of the ETD to the [VCU Digital Archives](#) according to instructions on the [VCU Graduate School Thesis and Dissertation webpage](#) (Candidate should confirm with adviser/program director all internal schedules for submission of copy, defense and approval.)
  - Survey of Earned Doctorates [All doctoral students must complete the Survey of Earned Doctorates (SED). In order to complete the survey, go to: <https://sed.norc.org/survey>. Refer to the Thesis and Dissertation Manual on the [VCU Graduate School Thesis and Dissertation webpage](#) for further information.]
  - Publication with ProQuest (All doctoral dissertations must be published with ProQuest. Dissertations are submitted directly by the student through the [UMI/ProQuest's ETD Administrator site](#) for VCU. Submitting to ProQuest does not satisfy the university's requirement of submission. You must submit to the [VCU Digital Archives](#) separately in order to fulfill this requirement for graduation.)
- Students must settle all financial obligations with VCU's Office of Student Accounting.

Revised 5/11/2010; 5/10/2011  
University Graduate Council

## Application to graduate

At the beginning of each semester, all matriculated graduate students will receive an e-mail reminder from the Office of Records and Registration/Graduation Office to initiate the application-to-graduate process for the current semester.

The e-mail notification will be sent to the official VCU student e-mail address and will include submission deadlines and guidelines. (All graduate students in the School of Medicine are asked to complete a preliminary review before initiating the graduation process and are referred to the School of Medicine guidelines or to their advisers/graduate program directors regarding application-to-graduate procedures.)

Students planning to graduate in the current semester should proceed as follows:

- Complete the Graduation Survey on e-Services.
- Visit the [Graduation Forms website](#) to complete the Graduate School Application to Graduate according to the instructions provided for the completion and submission of documentation to advisers for review and approval. (These forms are provided in PDF format so that students can complete the forms online and print them. Adobe Acrobat Reader is required.) A separate set of graduation forms must be completed and submitted for each program from which students intend to graduate.

The Graduate School Application to Graduate consists of:

- Instructions for students and advisers regarding submission of documentation and the approval process, including a checklist summarizing academic policies and requirements for graduation as determined by the University Graduate Council and articulated in the Graduate Studies at VCU section of the Graduate Bulletin.
- An approval sheet, requiring both preliminary and final reviews/approvals (and indicating the process by which advisers can notify Records and Registration/Graduation Office if students do not complete their programs of study by the end of the current semester).
- Directions for completing Commencement Program/Diploma Information. (This information must be submitted no later than the deadlines provided in

the e-mail notification to students in order to ensure inclusion in the appropriate Commencement Programs.)

- An optional Graduation Worksheet. (Students should check with their advisers/graduate program directors to see if they are required to complete the optional graduation worksheet.)

**Graduate students, program directors and academic school deans/designees are required to conduct a final review of all academic histories as part of the application-to-graduate check-out process as articulated in this Bulletin (catalog) and on the Graduate School website. A student's signature on the application to graduate is acknowledgement that the student has reviewed the academic history and that it is correct. Final approval signatures by graduate program directors and academic school deans/designees on the final application to graduate confirm that the student's academic history is complete, correct and final and that no future requests for changes to the academic history will be considered once the student has been approved to graduate.**

Detailed information about the application-to-graduate process for graduate students and guidelines for graduate program directors/advisers are available on the Graduate School website at [www.graduate.vcu.edu/forms](http://www.graduate.vcu.edu/forms).

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University Graduate Council

## Reapplying for graduation

Candidates who do not graduate at the end of the semester for which they have applied must reregister and reapply. Students must be enrolled at the time of application/reapplication (i.e., the semester in which the student graduates).

## Commencement

Graduate students are encouraged to visit the [Graduate School website](#) for information about university Graduate School events and activities for May and December commencement ceremonies. Students also are encouraged to visit the [VCU Commencement website](#).

## Time limit for completion of requirements and eligibility of courses

The time limit for a graduate degree will not extend beyond a period of six years for graduate certificates and master's degrees and eight years for doctoral degrees.

Course work completed before matriculation and applied toward the degree, including course work at VCU and that transferred from other institutions, will be evaluated by the program/department to determine whether it can be used to fulfill degree requirements. For course work that was taken more than eight years prior to the completion of the VCU degree, the graduate program director and school dean/designee will evaluate the course work for acceptability and report those courses deemed acceptable to the dean of the Graduate School. ([See policy on Exceptions.](#))

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University Graduate Council

## Grades

### Grade reports

Unofficial academic histories are available online through [eServices](#), or official transcripts may be obtained for a fee from the [Office of Records and Registration](#).

**It is the responsibility of all graduate students to:**

1. Check their records no later than the end of the add/drop registration period at the beginning of each semester to ensure that their registrations are correct and
2. Check their records at the end of each semester to ensure that their academic histories are current and correct.

**Students who wish to appeal assigned grades must follow the Grade Review Procedure as articulated below in this Bulletin (catalog) and as published in VCU Rules and Procedures.**

**Requests for any other changes to an academic history must be submitted in writing by students to their graduate program directors no later than 14 calendar days after the beginning of the following semester (for the fall**

semester, 14 calendar days after the beginning of the spring semester; for the spring or summer semester, 14 calendar days after the beginning of the fall semester).

Graduate students, program directors and academic school deans/designees are required to conduct a final review of all academic histories as part of the application-to-graduate check-out process as articulated in this Bulletin (catalog) and on the Graduate School website. A student's signature on the application to graduate is acknowledgement that the student has reviewed the academic history and that it is correct. Final approval signatures by graduate program directors and academic school deans/designees on the final application to graduate confirm that the student's academic history is complete, correct and final and that no future requests for changes to the academic history will be considered once the student has been approved to graduate.

Revised 5/11/2010  
University Graduate Council

## Transcripts

Official transcripts of students' academic records will be issued only by the Office of Records and Registration upon written request of the students.

## Repeated courses

Graduate students receiving grades below B shall repeat a course only upon the advice of their program directors. **Both the original grade and the repeat grade shall be included in the calculation of the graduate GPA.**

For undergraduate students repeating 500-level graduate courses, the [undergraduate historical repeat policy](#) applies only if the course is applied toward the undergraduate degree. A historical repeat may not be processed for 600-level courses. (See [policy on undergraduate students in graduate classes](#).)

Revised 5/14/2013  
University Graduate Council

## Grade review procedure

If a student thinks that a grade is inaccurate, the situation should be discussed with the faculty member. This will allow the faculty member to explain how the final grade was determined and, if an error is detected, to submit a change of grade.

If the student still thinks that the grade was assigned unfairly, a written appeal should be submitted to the department chair. Upon receipt of the written appeal, the department chair shall provide the student with a copy and explanation of the Grade Review Procedure (published in the VCU Insider, available at [www.students.vcu.edu](http://www.students.vcu.edu)), and shall ensure that the requirements of the Grade Review Procedure are followed.

If the department chair is unable to resolve the complaint, then the dean of the school in which the course was offered will form a grade review committee as described in the Grade Review Procedure policy and will submit its decision to the dean of the school. **The decision communicated by the dean of the school in which the program resides is the final decision** that will be distributed to the student, faculty member(s) and department chair.

In cases concerning grades awarded for the fall semester, the written appeal must be submitted to the department chair no later than 14 calendar days after the beginning of the following spring semester. In cases concerning grades awarded for the spring semester or summer sessions, the written appeal must be submitted no later than 14 calendar days after the beginning of the following fall semester.

## Grading system

Work quality is measured by the four-point grade system with the following equivalents:

Grade symbol and meaning	Grade-point value per semester credit
A	4.0
B	3.0
C	2.0
D	1.0
F	0.0

P/F (Pass/Fail)	0.0
PR (Progress)	0.0
S/U (Satisfactory/Unsatisfactory)	0.0
W (Withdrawal)	0.0

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**Specifically, students may not present courses receiving less than C for fulfilling degree requirements.**

Refer to the grading explanations below for the use of the grades of "satisfactory" and "unsatisfactory" in relation to thesis/dissertation classes.

The number of grade points earned is computed by multiplying the grade-point value for the letter grade by the number of semester credits for the course. As an example, a student receiving an A (i.e., four grade points) in a three-credit course receives 12 grade points.

The grades of accepted transfer courses are not included in the computation of the VCU GPA.

Graduate-level credit is not granted for any type of military service or career or life experience unless it involves course work taken as part of an approved graduate program at a regionally accredited college or university.

Graduate students are not designated as special honors graduates (i.e., cum laude, magna cum laude, summa cum laude) on transcripts or diplomas upon completion of their programs.

No degree credit for remedial work shall be awarded to graduate students. Graduate students advised to take any level course for remedial work should be notified in writing that the course credit shall not apply to the degrees they are pursuing. Other bodies may rule later, should students wish to apply the credit to some other degree.

### Grade of audit (AU)

Class size permitting, students may register for courses on an audit basis. Auditing a course means students enroll in courses, but do not receive academic credit upon completion of the courses. Students who register on an audit basis are subject to attendance regulations of that class and, unless otherwise specified at the discretion of the instructor, are subject to the same course requirements as other students in the class. Students who register on an audit basis may be administratively withdrawn by instructors for a violation of class requirements for audit students, before or after the normal withdrawal deadline as posted on the [VCU Academic Calendar](#). Audit students are charged the regular rate of tuition and fees. An audit course is counted as part of students' semester load in terms of classification as full-time students. Courses taken for audit, however, do not satisfy minimum enrollment requirements for students receiving graduate teaching or research assistantships, graduate fellowships, or university graduate scholarships. **Students may register for audit only during add/drop and late registration periods as a new registration and not as a change from credit to audit. Changes in registration status from audit to credit or from credit to audit will not be approved after the last day of add/drop registration.** The grade of AU is not included in the calculation of the GPA.

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### Grade of continued (CO)

The grade of CO may be assigned as an interim grade for those courses that run over several grade reporting periods. The CO indicates that the course is not expected to be completed in a single semester and that students must reregister for the course. Upon completion of the course, a final grade will be assigned to the current semester, and the previous CO grade(s) will remain. This grade may be assigned only in courses approved for such grading. The grade of CO is not included in the calculation of the GPA.

### Grade of incomplete (I)

If, because of circumstances beyond his or her control, a student is unable to meet all the requirements of a course by the end of a semester, the mark of incomplete (I) may be given. The awarding of a mark of I requires an understanding between instructor and student as to when and how the course will be completed. This understanding must be recorded on an Incomplete Grade Assignment Form that is submitted instead of a final course grade. The maximum time limit for submission of all course work necessary for removal of an incomplete is the end of the last day of classes of the next semester following the semester in which the incomplete was incurred (i.e., an incomplete awarded in the fall semester must be converted



by the last day of classes in the spring semester, and an incomplete awarded in the spring or summer session must be converted by the last day of classes in the fall semester). At that time, an unremoved grade of incomplete is changed automatically to a failing grade. Individual departments and schools may have more stringent time limits. An extension of the time limit is possible, but must be approved, prior to the expiration date stated above, by the instructor and the dean of the school through which the course is offered. Written approval indicating the new time limit must be filed with the dean of the Graduate School. The temporary grade of I is not included in the calculation of the GPA.

Revised 5/11/2010  
University Graduate Council

#### Grade of pass (P)

This grade is awarded for certain courses to denote satisfactory completion of requirements. The grade of P is not included in the calculation of the GPA.

#### Grade of progress (PR)

The mark of PR may be assigned only in courses approved for such grading. Unlike the mark of I, PR will not automatically be changed to a failing grade at the end of the succeeding semester. The grade of PR is not included in the calculation of the GPA.

#### Grades of satisfactory (S), unsatisfactory (U) or fail (F) in thesis and dissertation courses

All thesis and dissertation credits are to be graded each semester as satisfactory (S), unsatisfactory (U) or fail (F). There is no limit to the number of these credits a student may take while pursuing completion of the degree. Receipt of the grade of U is formal notification to the student of unsatisfactory progress. A student who receives a final grade of F in the thesis or dissertation will be terminated from the graduate program. A grade of S or U is not included in the calculation of the GPA. A grade of incomplete (I) may not be assigned for a course approved for satisfactory, unsatisfactory or fail grading. A grade of U is a permanent grade. Future satisfactory performance is reflected in the assignment of the grade of S in subsequent semesters.

#### Grade of withdrawal (W)

The grade of W indicates that the student has officially withdrawn from a course or has been administratively withdrawn for nonattendance. **No student who has officially withdrawn from a course or who has been administratively withdrawn for nonattendance may attend subsequent meetings of the course.** Students may reregister for courses from which they have withdrawn through the normal registration process. A grade of W is not included in the calculation of the GPA. The number of hours recorded for courses from which a student withdraws is not included in the calculation of the “20% or below” statistic. Withdrawals are, however, included in the Satisfactory Academic Progress evaluation conducted by the Financial Aid Office.

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University Graduate Council

#### Note: Difference between drop and withdrawal

A student may drop a class during the add/drop registration period only. When a class is dropped, the registration and associated tuition/fee charges are cancelled. Drop charges are removed to indicate that the student never attended the class or never attended the class beyond the add/drop registration period.

A student may withdraw from a class up to the withdrawal deadline as published in the University academic calendar at [www.vcu.edu/academiccalendars](http://www.vcu.edu/academiccalendars). Withdrawal from a course does not cancel the registration or the associated tuition/fee charges, and results in the assignment of the grade of W. Refunds, if applicable, are issued in accordance with procedures described in the refunds section of the “[Tuition, fees and expenses](#)” section of this bulletin.

In both situations, any financial aid already disbursed to the student’s account based on the original course registration will be assessed and adjusted according to the University Refund Policy and may result in a balance due to the university.

Revised 5/11/2010  
University Graduate Council

## Course listings

### Identification of symbols

I	A course offered in the first semester
II	A course offered in the second semester
I, II	A course offered in each semester
I and II	A course continued through two semesters

S A course offered in summer sessions

## Course interpretation

A single number listing for a course, such as MGMT 648, indicates that it is a one-semester course and may be offered each semester or only one semester each year.

Courses listed with a double number, such as THEA 603, 604 and designated as semester courses, consist of two one-semester courses, either semester of which may be taken without the other.

Courses listed with a double number, such as APPM 575-576, are designated as continuous courses and consist of two one-semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the successful completion of the first.

The university reserves the right to withdraw any course or program.

## Course numbering

All schools and programs within VCU use the following course numbering system. All course numbers consist of three digits (XXX). The first digit relates to the course level as follows:

**0XX noncredit courses** Courses offered for students to make up deficiencies in previous training or to improve certain basic skills.

**1XX and 2XX undergraduate, lower level** Courses with these numbers are offered primarily for undergraduate students and may not be used for graduate credit, although graduate students may be required to register for courses at this level to gain a necessary foundation for other course work.

**3XX and 4XX undergraduate, upper level** Courses offered for advanced undergraduates and usually constitute the major portion of specific program work leading to the baccalaureate degree. On occasion, graduate students will be advised by their graduate advisers to enroll in prerequisite 4XX courses. Graduate programs can require that 400-level courses be taken, but credit hours in these courses cannot count toward the graduate degree or in the graduate GPA (effective fall 2004).

**5XX introductory graduate courses** Graduate students enroll for credit in these courses through the normal graduate advising system. Departments may limit the number of 500-level courses applicable to a graduate degree program. Advanced undergraduates may enroll in these courses for credit with consent of the offering department. Credit is applicable toward only one degree unless a student is admitted to a course of study that allows a defined number of shared courses.

**5XX professional graduate courses** First year, first professional (medicine, dentistry, pharmacy and physical therapy) courses normally open to students enrolled in the M.D., D.D.S., Pharm.D. and D.P.T. programs. Certain courses of this group may be designated by the department and approved by the University Graduate Council for graduate credit.

**6XX, 7XX and 8XX graduate courses** Graduate students enroll for credit in these courses through the normal graduate advising system. Credit is applicable toward only one degree unless a student is admitted to a course of study that allows a defined number of shared courses.

**6XX and 7XX professional graduate courses** 6XX Second year, first professional (medicine, dentistry, pharmacy and physical therapy [second and third year]) courses normally open only to students enrolled in the M.D., D.D.S., Pharm.D. and D.P.T. programs. Certain courses of this group may be designated by the department and approved by the Graduate Council for graduate credit.

**7XX** Third and fourth year, first professional (medicine, dentistry and pharmacy) courses normally open only to students enrolled in the M.D., D.D.S. and Pharm.D. programs. Certain courses of this group may be designated by the department and approved by the Graduate Council for graduate credit.

## Leave of absence and withdrawal policies

**Leave of absence.** Graduate students may request leaves of absence from their programs through written appeals to their advisers. The graduate advisers/program directors will forward the requests to the appropriate school dean/dean designee who, following departmental governance procedures, will forward their recommendations and any supporting documentation to the dean of the Graduate School who will respond for the university. Students who do not register for courses for more than one calendar year and who have not been granted approved leaves of absence by the graduate dean are out of compliance with continuous enrollment policy and must reapply for admission to VCU and to their graduate

degree programs. **Graduate students with approved leaves of absence are exempted from continuous enrollment requirements for the LOA period. Students should note that while leaves of absence temporarily suspend continuous enrollment requirements, they do not extend time limits for completion of degrees. (See policy on Exceptions.)**

**Withdrawal from classes.** To withdraw officially from VCU courses, students must submit complete Official Withdrawal Forms to the Office of Records and Registration by the official withdrawal date as published in the official [VCU Calendar](#). The Official Withdrawal Form is obtained from the Office of Records and Registration (Monroe Park Campus: Founders Hall, Room 104; MCV Campus: Sanger Hall, Room 1-055). Students may also withdraw on line via VCU E-services. Failure to complete this process may result in the assignment of failing grades in all or some of the courses.

A grade of withdrawn ("W") will be recorded on the permanent student academic record for all courses from which students officially withdraw.

**Health-related withdrawals.** While graduate students are expected to work toward completion of their degrees without interruption, health-related problems may necessitate withdrawal from the university.

Some schools require a statement from a physician indicating the nature and severity of the condition, when a student should stop attending classes, and the estimated date of return to school.

In the event that a student's health problem poses a danger to the student, to patients or to others with whom the student may come in contact, and the student is unable or refuses to initiate steps to withdraw as stated above, administrative withdrawal of the student may be made by the dean of the Graduate School upon consultation with the appropriate faculty and a qualified physician.

Because curricular and course content changes may occur and a student's progress toward a degree may be affected adversely because of an extended absence, specific time periods may be imposed by individual schools with respect to the length of time allowed for absence from school. If there is a delay in return beyond the allotted time period without written consent of the dean of the Graduate School, the student may petition for return with advanced standing.

Some schools require that prior to return to school, the student must submit to the dean of the Graduate School a statement from a physician. This statement should document that the condition that necessitated the withdrawal has been corrected to a point where the student can complete successfully all curriculum requirements with reasonable accommodation including classroom, laboratory, clinical and fieldwork experience.

## Off-campus graduate instruction

VCU is dedicated to serving the needs of Virginians by providing off-campus graduate credit instruction when and where it is needed. Courses are offered in response to an expression of need from various locales and groups.

Off-campus instruction features the same course work available on campus, and most off-campus courses are fully degree-applicable within the admission standards of the Graduate School. **The official policies and procedures of the University Graduate Council, as published on this Graduate Bulletin website and on the Graduate School website, are fully applicable to all off-campus graduate programs and graduate students.**

Tuition for most off-campus classes is the same as other university classes; however, students in off-campus credit classes are not charged university or activity fees.

For additional information on off-campus credit instruction, contact Edward Howard, director of continuing studies, Division of Community Engagement, 920 W. Franklin St., Richmond, VA 23284-3062, telephone (804) 828-8819, or visit the Division of Community Engagement website at [www.community.vcu.edu](http://www.community.vcu.edu).

## Undergraduate students in graduate classes

VCU undergraduates may enroll in 500-level courses with approval of their advisers and consent of the programs offering the courses. Highly qualified undergraduates approaching the last semester of study may apply for admission to a graduate program. If accepted, they may enroll in a maximum of two 600-level graduate courses during the last semester of undergraduate study. Permission to enroll as an undergraduate in 600-level graduate courses must be obtained from the undergraduate academic adviser and the Graduate School. The total load must not exceed 16 hours of combined credit. Credit for any course is applicable toward

only one degree unless a student is admitted to a course of study that allows a defined number of shared courses. Undergraduate students seeking permission to enroll in 600-level courses must have a minimum undergraduate grade point average of 3.0.

For undergraduate students repeating 500-level graduate courses, the [undergraduate historical repeat policy](#) applies only if the course is applied toward the undergraduate degree. A historical repeat may not be processed for 600-level courses.

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University Graduate Council

## Accelerated bachelor's-to-master's programs

VCU offers a number of accelerated bachelor's-to-master's degree programs in which highly-qualified undergraduate students can earn both degrees in a minimum of five years by taking approved graduate-level courses during the senior year of their undergraduate programs. Accelerated bachelor's-to-master's degree programs must be approved by both the University Undergraduate Curriculum Committee and the University Graduate Council. Program descriptions for all accelerated programs are included in the archived bulletin and are also accessible by using the program search function of the online bulletin website.

Undergraduates who are interested and qualified for admission to accelerated programs must apply for admission to graduate study and be accepted before they begin the equivalent of the senior year of undergraduate study. Once accepted, they may enroll in the shared graduate course work identified in the approved curriculum (or in the student's plan of study that must be approved at the time of admission). Graduate 600-level course work that has not been identified as part of the shared course work should not be taken until the shared graduate course work has been completed and the student's status has changed from undergraduate to graduate. No 600-level graduate course work may be taken before the senior year. No undergraduate course work may be counted toward the master's degree.

Students in accelerated bachelor's-to-master's programs who receive grades of C or below in the shared graduate course work identified in the approved curriculum (or the student's plan of study approved at the time of admission) must be reviewed for possible termination from the accelerated program as well as the graduate degree program, if applicable. If allowed to continue in the accelerated program, the grades received in these courses will be counted toward both the undergraduate and graduate degree programs and in the calculation of both the undergraduate and graduate grade-point averages. Substitutions for any of the shared graduate course work must be approved by the undergraduate and graduate advisers before the last day of add/drop registration of the semester in which the student wishes to take the substituted course(s).

## Graduate tuition and student fees

Students must pay all applicable tuition, housing and dining charges, and other fees when due, as described in this section. Students who fail to pay these charges on time may be assessed a late payment fee. The university reserves the right to revise or alter all tuition and fees, regulations pertaining to student fees, and collection procedures at any time. In addition to expenses billed by the university, students should make allowances for books, clothing, supplies, travel and other out-of-pocket costs when figuring their total yearly expenses at the university.

## Student financial responsibilities

Students who enroll are responsible for:

- Full payment of tuition and fees generated from their registration.
- Full payment of all charges for housing and dining services, and other applicable miscellaneous charges.
- Keeping a current mailing address on file with Enrollment Services. Refunds and tax forms are not issued to students with inactive mailing addresses.
- Establishing an official VCU e-mail address and reading their e-mail on a regular basis, since e-mail will be used to notify students when their invoices are available in the payment and billing site. Paper bills are not sent to enrolled students. Failure to acknowledge and review the electronic invoice does not relieve responsibility for timely payments. Other important notifications are also sent to the official VCU e-mail address.



Tuition and fees are categorized and described on the Student Accounting Web site at [www.enrollment.vcu.edu/accounting/tuition\\_fees.html](http://www.enrollment.vcu.edu/accounting/tuition_fees.html).

### Full-time and part-time graduate study

Graduate students registered for nine to 15 credit hours are considered full time and are charged a flat rate for tuition and fees. Graduate students registered for more than 15 credit hours during any semester will be charged an overload graduate tuition fee on a per-credit-hour basis above the full-time tuition rate. Graduate students registered for fewer than nine credit hours are charged a graduate per-credit-hour rate based on their program. Graduate students fully funded as graduate assistants or graduate fellows with tuition remission must register for at least nine credit hours per semester (three credit hours during the summer if funded on a 12-month stipend). Departmental requirements may vary; therefore, students should verify expected course loads with their graduate program directors.

Nondegree-seeking students who hold bachelor's degrees are classified as DHG (degree-holder graduate) if they enroll in one or more graduate courses. DHG students are charged the graduate rate regardless of whether they enroll in graduate- or undergraduate-level courses. If they enroll for nine or more credits, they are charged at the full-time graduate rate.

### Tuition and fee schedule

Tuition and fees are categorized and described on the Student Accounting website at [www.enrollment.vcu.edu/accounting/tuition\\_fees.html](http://www.enrollment.vcu.edu/accounting/tuition_fees.html). Questions regarding tuition and fees may be directed to the Student Accounting Department at (804) 828-2228, or by emailing [stuacctg@vcu.edu](mailto:stuacctg@vcu.edu). The university reserves the right to revise or alter all fees, regulations pertaining to student fees and fee collection procedures at any time.

### University fee

This fee is used by the university to support student facilities, campus development, intercollegiate athletics and other programs. Full-time students pay a flat-rate university fee each semester. Part-time students pay this fee on a per-credit basis.

### Student activity fee

This fee is used to support social, cultural and other student activities on the Monroe Park Campus. These activities include concerts, plays, student organizations and publications. Full-time students on the Monroe Park Campus pay a flat-rate student activity fee, while part-time students on the same campus pay this fee on a per-credit basis. Students on the MCV Campus are not charged this fee.

### Student Government Association fee

This fee is used to support social, cultural and other student activities on the MCV Campus. The fee is charged to all full-time and part-time MCV Campus students. Monroe Park Campus students are not charged this fee.

### Student health fee

All full-time students on both campuses must pay the student health fee. Part-time students may participate in the University Student Health Services on an elective basis by paying the student health fee. The University Student Health Services offers unlimited office visits for acute and chronic ailments, after-hours phone advice for an urgent medical problem and most laboratory tests associated with acute illnesses ordered by the USHS staff, among other services. The fee does not cover accidental injury, emergency room visits or hospitalization. More specific information as to what is covered and not covered by the fee is available on the [USHS website](#).

### Technology fee

The technology fee is charged to all undergraduate, graduate and professional students in all programs. Full-time students pay a flat rate. Part-time students pay a per-credit-hour rate. The fee is used to provide for students' technological needs and to support university-wide technological initiatives.

### Off-campus fees

The university fee, the student activity fee, the student government association fee (except School of Social Work) and the student health fee are not charged to students taking off-campus classes.

### Capital outlay fee

This fee is charged to all full-time and part-time non-resident, on-campus students. The fee is mandated by the General Assembly to reimburse the State for debt service costs attributable to non-resident students related to the financing of buildings and equipment.

### Online course fee

The online course fee is charged for undergraduate and graduate online courses. The fee covers operational and personnel support to develop and maintain online courses.

### Special fee charges

Because of specialized programs, various schools and departments may charge each student additional fees to cover special materials, equipment breakage and other costs. For specific information about special fees, refer to the Student Accounting Department Web site or to the specific school or department section in this bulletin.

### Student billing

Students must pay all applicable tuition, fees, room and board when due. Students are notified at their official VCU email address when their bills are available on the billing and payment site. No paper bills are sent to enrolled students. Tuition and fees for preregistered students, along with charges for housing and dining plans where applicable, are due by the official start of each semester. After the registration period all other students are sent a notification at their official VCU email address when their electronic bill has been issued and should pay by the payment due date indicated on the electronic invoice. Students who fail to pay these charges on time may be assessed a late payment fee. The university reserves the right to revise or alter all tuition and fees, regulations pertaining to student fees, and fee collection procedures at any time. In addition to expenses billed by the university, students should make allowances for books, clothing, supplies, travel and other out-of-pocket costs when figuring their total yearly expenses at the university.

The Installment Payment Plan assists students in meeting the cost of their higher education by offering a convenient payment option. The university-administered IPP is offered only during the fall and spring semesters. The plan distributes the cost of tuition, fees, housing and dining charges for a semester into four equal installments.

All students attending the university with current charges of \$100 or more are eligible to participate. All prior semester balances must be paid in full to be eligible.

Students who receive financial aid are also eligible for participation in the IPP. These students may deduct their aid to determine the net total due. If it is \$100 or more, the remaining amount may be paid in installments.

In some cases, a student may receive a financial aid refund, and then subsequent charges for the semester are added to the student's account. If the student has received a refund, he or she is ineligible to participate in the IPP unless the refund has been repaid to the university in full. The student must then pay the first installment and follow the instructions to enroll in the IPP.

There is a \$25 nonrefundable application fee payable with the first installment of each semester. Interest is not assessed on the outstanding balance; however, installments not paid by the payment due date are subject to a late payment penalty. Information about how to participate in the IPP is available online at [www.enrollment.vcu.edu/accounting/payment\\_plan.html](http://www.enrollment.vcu.edu/accounting/payment_plan.html).

### Drop vs. withdraw

Drop charges are removed to indicate that the student never attended the class. The student is not eligible to receive financial aid, and any financial aid already credited to the student's account based on the original course registration will be removed from the student's account, which may create a balance due to the university.

Withdraw results in the academic grade of W. Charges are assessed and adjusted according to the University Refund Policy. Students may owe a balance to the university.

## Refund of tuition and fees

The official university tuition and fee policy, applicable for the fall and spring semesters only (excluding short/nonstandard courses), is outlined below. Refunds are calculated on a course-by-course (per-credit-hour) basis, disregarding the full-time cap amounts. Students who are enrolled full-time and withdraw from courses may not receive a refund.

- Students dropping/withdrawing from courses through the first week of class will be entitled to a 100 percent refund of tuition and fees.
- Students withdrawing from courses through the second week of class may be entitled to an 80 percent refund of tuition and the university fee.
- Students withdrawing from courses through the third week of class may be entitled to a 60 percent refund of tuition and the university fee.
- Students withdrawing from courses through the fourth week of class may be entitled to a 40 percent refund of tuition and the university fee.
- Students withdrawing from courses after the fourth week of class are not entitled to receive a refund of tuition and fees.

The refund policy and deadlines of the English Language Program (ELP) are different from the university's refund policy for academic courses. Details of the policy may be obtained from the English Language Program Office.

A full refund for Holiday Intersession will be granted if the course is dropped before midnight on the day of the first class meeting. Partial refunds are not granted.

A full refund for a short/nonstandard course's tuition and applicable fees will be granted if the course is dropped no later than the day following the first day of a given class. Partial refunds are not granted.

A full refund for summer tuition and applicable fees will be granted if the course is dropped no later than the day following the first day of a given class. (This policy also is applicable if the class does not meet on two consecutive days.) Students reducing their academic course loads to fewer than full time (12 credits for undergraduates and nine credits for graduates) before the end of the last day to drop a course will be entitled to a refund of tuition and applicable fees reflecting the reduced course load. Partial refunds are not granted for the summer session.

Students who are financial aid recipients and withdraw from all courses prior to completing 60 percent of the semester are subject to the Federal Return of Title IV Funds Policy. For more details see [Federal Financial Aid Refund Policy](#).

Refunds will be computed based on the actual withdrawal date certified by the Office of Records and Registration. Refunds will not be made to students who do not attend classes and have not completed the required withdrawal procedure. Refund processing may take approximately two to three weeks. Exceptions to this refund policy are made only in rare instances. Written application for an exception must be filed in the Student Accounting Department to the Refund Appeals Committee within three years.

Refer to the Residential Housing contract and Dining Services' "Terms and Conditions" for housing and dining services refunds.

Requests for refunds that are not generated from the overpayment of financial aid should be made in writing to: VCU Student Accounting Department, P.O. Box 843036, Richmond, VA 23284-3036. Refund request forms are available at the Student Services Centers, 1015 Floyd Ave. or 1000 E. Marshall St., Room 323, and on the Web at [www.vcu.edu/enroll/forms](http://www.vcu.edu/enroll/forms).

In accordance with credit card regulations, the university will refund any credit balance that may result on a student's account as the outcome of a credit card payment back to the credit card account. The remaining credit balance, if any, will be refunded to the student.

Students are responsible for paying any increase in charges that may occur after the generation of any refund.

## Outstanding charges

Students who fail to meet payments when due will be assessed late payment penalties and will be denied registration for future classes until they have paid all accrued amounts owed. Students with balances owed to the university will not be

issued degrees, official transcripts of grades or graduate reports until all charges are paid in full.

Any communication disputing an amount owed, including an instrument tendered as full satisfaction of a debt, must be submitted to the Director of Student Accounting, Student Accounting Department, Virginia Commonwealth University, P.O. Box 843036, Richmond, VA 23284-3036.

Pursuant to Section 2.2-4805 et seq., of the Code of Virginia, and in accordance with rules and regulations promulgated by the State Comptroller and Attorney General of the commonwealth of Virginia, VCU will charge interest, costs and fees on all accounts past due.

VCU is participating in the Virginia Set-off Debt Collection Act of 1981. Under the provisions of this act, a Virginia individual income tax refund will be subject to the university's claim for unpaid balances of tuition and fees.

A student who pays a past due balance with a dishonored payment item may be subject to having his or her current and/or future registration cancelled. A charge of \$50 is levied for all dishonored payment items.

## Military services tuition relief, refund and reinstatement guidelines

These guidelines apply to students whose service in the uniformed services (military) has necessitated their sudden withdrawal or prolonged absence from their enrollment at Virginia Commonwealth University and provides for the required re-enrollment of such students. Students are offered the following enrollment secession options:

1. Drop all courses before the end of the add/drop period and receive a full reduction of tuition and fee charges. Students residing in university housing and participating in a dining plan will be released from their housing and dining service contracts and will receive a prorated refund of these charges. Students will be asked to sign the drop request form with the director of military student services indicating that they are not receiving a financial aid refund. If the reduction of charges results in an overpayment on the account after any financial aid or third party awards have been reduced, the student will be issued a refund.
2. Receive a grade of Incomplete (IM – incomplete military) in one or all courses. Students residing in university housing will be released from their housing and dining service contracts and will receive a prorated refund of these charges. Students who chose to take a grade of IM will not have tuition and fees reduced for these courses because, upon receipt of an approved change of grade, credits will still be earned for the semester. Students will have 12 months from the date that they return from active service to complete the course work and earn a course grade. If a student received financial aid, the amount recovered to the financial aid accounts will follow the Federal Financial Aid Refund Policy.

This option might best meet the needs of students who are called to active duty service during the first week of school and did not receive a financial aid refund check or direct deposit.

This option might best meet the needs of students who have essentially completed all course work in a class for the semester, but have yet to turn in a final project, an exam or other materials. It should be agreed upon between the instructor and the student that the remaining course work can reasonably be completed during the 12-month period.

3. Accept administrative withdrawal (WM – withdrawn military) from all courses as of the effective date of the orders to active duty. If this option is elected, a full refund of all tuition, fees and prorated room and dining charges will be made. If a student received financial aid, the amount recovered to the financial aid accounts will follow the Federal Financial Aid Refund Policy. If the reductions of charges results in an overpayment on the account after any financial aid or third party awards have been reduced, the student will be issued a refund.

This option might best meet the needs of students who are called to national service in the middle of a semester and have not completed 75 percent of their class requirements. This option also might best meet the needs of students who are leaving the university during the first week of class and received a financial aid refund check or direct deposit as a result of their financial aid.

4. Students who have completed 75 percent of the course requirements at the time of military activation and, notwithstanding certain exceptions noted below, who meet requirements as determined and agreed upon by the faculty instructor and the student may receive full course credit.

Students may receive full course credit if 75 percent of course requirements have been completed, under certain circumstances. The instructor is responsible for determining what percentage of course requirements have been completed based on factors to include but not limited to contact time, examinations, projects, work experience and clinical experience. The awarding of full credit cannot be made where the incomplete requirements are essential components of the course or program required by law or regulatory bodies, required for competency in the work place, or required to complete licensure examinations.

#### Leaving the university

To initiate this process, the student must provide the Office of Military Student Services with a copy of his or her active duty orders in addition to a printed copy of his or her course registration for that semester and indicate Option 1, 2, 3 or 4 for each course. If Option 4 is selected, the student must provide documentation from the instructor. The director of military student services will forward all documentation to the university registrar to take the appropriate enrollment action, post the appropriate grades and send a copy of the orders and a copy of the student course request statement to the director of financial aid and the director of student accounting.

#### Returning to the university

Students who withdrew from the university as a result of military deployment, mobilizations or duty changes are entitled to return without having to requalify for admission so long as the student (a) returns after a cumulative absence of no more than five years and (b) notifies the appropriate admissions office of the intent to return to the university not later than three years after the completion of military service obligation. The student may return to the university in the same program of study. With the consultation of an adviser, a comparable program of study may be chosen for discontinued programs.

#### Tuition determination and student classification

Tuition is determined by the number of credit hours a student is taking, the student's residency classification, course of study and classification level.

#### In-state residency

Eligibility for in-state tuition benefits is determined by Section 23-7.4 of the Code of Virginia. Refer to the [Determination of student classification for in-state tuition purposes](#) in the About VCU section of this bulletin for the complete code.

All applicants to VCU who want to be classified as Virginia residents must complete the Application for Virginia In-state Tuition Rates included in the graduate application. The residency determination of the applicant will be conveyed at the time of admission. New and continuing students initially classified as non-Virginians for tuition purposes may request a review of the initial residency determination by completing an Application for Change of Domicile available from the Office of Records and Registration (online). The student must present clear and convincing evidence that he or she is not residing in the state primarily to attend school. The application deadline is 30 days prior to the start of the semester, and it is the responsibility of the student to establish or to file an appeal to change his/her residency classification prior to the start of classes for the semester under consideration. In accordance with the Code of Virginia, applications received after the start of the semester must be considered for the next semester. Submit completed applications with documentation to the university residency appeals officer. Processing may require four to six weeks; therefore it is strongly recommended that applications be submitted earlier than the stated deadline.

Our service to students is limited to assuring that they understand the procedures for appealing and that they have access to information about the relevant sections of the Code of Virginia. We provide information about the steps of our process and access to the applicable sections of the statute and the associated guidelines. We provide qualified staff to review the appeals and make decisions based on the information students provide. What we cannot do is provide advisement to students as to how to present their case for review; we cannot become the student's advocate since we must make the decision.

Students approved for a change to in-state status for tuition purposes are notified by mail with copies of their approval letters sent to the Office of Financial Aid and the Student Accounting Department. Students denied this status also are notified by mail. The denial letter informs the student of procedures for appeal of this decision, to include filing an appeal with the University Residency Appeals Committee. Students who submit fraudulent applications, falsify documentation or conceal information will be subject to reclassification, payment of all nonresident fees owed and university discipline.

Please note that a student with in-state status for tuition purposes who exceeds 125 percent of the credit hours needed to complete his program will be assessed a tuition surcharge.

### Financing graduate school

Current information on financial aid programs, policies and procedures are available on the VCU website at [www.vcu.edu/enroll/finaid](http://www.vcu.edu/enroll/finaid). To obtain printed materials or additional information, call or visit the appropriate financial aid office listed.

#### Monroe Park Campus programs

Grace E. Harris Hall  
1015 Floyd Avenue, First Floor  
P.O. Box 843026  
Richmond, Virginia 23284-3026  
(804) 828-6669  
Fax: (804) 827-0060

[www.enrollment.vcu.edu/finaid/contact.html](http://www.enrollment.vcu.edu/finaid/contact.html)

#### Schools of Allied Health Professions, Nursing and Pharmacy

VMI Building, Room 334  
1000 East Marshall Street  
P.O. Box 980277  
Richmond, Virginia 23298-0277  
(804) 828-2702  
Fax: (804) 827-0060

#### School of Dentistry

Lyons Building, Room 309  
520 North 12th Street  
P.O. Box 980566  
Richmond, Virginia 23298-0566  
(804) 828-9953  
Fax: (804) 828-6072

#### School of Medicine

McGlothlin Medical Education Center  
1201 East Marshall Street, Room 4-306  
P.O. Box 980565  
Richmond, Virginia 23298-0565  
(804) 828-4006  
Fax: (804) 827-5555

### Graduate assistantships and fellowships

University graduate teaching and research assistantships and fellowships are awarded to continuing and newly admitted graduate students. Eligibility is based on a variety of criteria. Special rules, contained in the VCU Graduate School Policies and Procedures Statement on Graduate Fellowships and Assistantships, apply to graduate assistants. Such awards must be coordinated with any other financial aid. Any stipend support is reported to the Internal Revenue Service and is subject to IRS rules. Refer to the Graduate School Web site ([www.graduate.vcu.edu/community/financing](http://www.graduate.vcu.edu/community/financing)) for a copy of the policy statement. Graduate program directors and prospective graduate assistants should agree upon the specific conditions of employment before finalizing appointments.

Additional opportunities for involvement in outside activities may arise in the course of the training period, some of which may provide for additional/supplementary compensation. Involvement and/or participation in such opportunities may assist the department in maintaining the research infrastructure, provide additional experience in instructional activity, assist other units of the university in the delivery of programs consistent with the missions of the institution, involve participation in university organizations and so forth. Such activities may include those for which supplementary compensation is provided. While such activities have the potential for enriching the development of the

individual graduate student, they also hold the potential for interfering with the graduate students responsibilities to his/her department or program and her/his timely progress toward the completion of his/her educational degree requirements.

Therefore, graduate students **must** consult with their advisers prior to undertaking additional activities that may detract, or which have the potential for detracting, from their timely progress to degree completion. Advisers are encouraged to provide/encourage opportunities which broaden the training experience for students in preparation for the wide variety of career opportunities now available. The graduate program director should also be made aware of any such activities to ensure that completion of degree requirements is not compromised.

Inquiry about such awards should be made directly to the school or department in which the student intends to enroll. Students in the process of applying for admission should indicate their interest in such support. Some programs include a separate application for support with the application for admission. Refer to the individual chapters in this Bulletin, program Web sites and the Graduate School Web site ([www.graduate.vcu.edu/community/financing](http://www.graduate.vcu.edu/community/financing)) for additional information on graduate student support and funding opportunities.

## Termination of appointments

Graduate assistantships and fellowships normally end when the period of appointment is concluded and the term of the assistantship or fellowship agreement is fulfilled. An appointment may also end when the grant or contract supporting the student expires, even if that occurs before the end of the student's current appointment. Otherwise, a graduate fellowship or assistantship may be terminated for the following reasons:

1. Resignation for cause by the student. Such resignation is to be in writing for approval by the department chair or program director, with a copy to the dean of the Graduate School.
2. Failure of the graduate fellow or assistant to perform assigned duties adequately or to behave professionally. Termination of assistantship or fellowship appointments requires written documentation to support the action. Documentation should clearly show that the infraction, any needed remedy and consequences were conveyed to the graduate student in writing in a timely manner. Such termination is to be recommended by the department chair or program director, with a copy to the dean of the Graduate School.
3. Failure of the graduate fellow or assistant to remain in good academic standing or to adhere to enrollment policies in accordance with this policy statement.

Any stipend funds remaining after termination of a graduate fellowship or assistantship revert to the funding department or program and may be reallocated to another graduate student. If students withdraw from classes or programs or reduce enrollment below full time, tuition and fees and stipends may be rescinded and students will be responsible for returning all funds to the university. Exceptions are made on a case-by-case basis by the dean of the Graduate School on the recommendation of the student's graduate program director.

A graduate student who believes that his or her graduate fellowship or assistantship has been terminated unjustly, and who has exhausted all departmental and school appeal procedures, may appeal the decision in writing to the dean of the Graduate School. A student who wishes to appeal a termination of a graduate fellowship or assistantship must notify the graduate dean in writing within 10 business days after the decision to terminate has been upheld by departmental and school appeal procedures.

Revised 5/8/2012  
University Graduate Council

## Financial aid

### eServices – online records access

Students are encouraged to use eServices, a password-protected service for viewing VCU student records online, to check the status of their financial aid application and award package. Students also may register for classes, print bills and more. The eServices Web site is located at [www.eservices.vcu.edu/](http://www.eservices.vcu.edu/).

### E-mail – official method of communication

Students are required to obtain an official VCU student e-mail account within one week of the beginning of their first semester of enrollment. Students are

responsible for reading in a timely fashion university-related communications sent to their official VCU student e-mail account. The Office of Financial Aid uses e-mail to provide financial aid information, to request documentation to support financial aid application data and to provide financial aid application status and award information. Information on how to set up an account is available online (go to the "Academic" section of "Computer Accounts" at [www.vcu.edu/it/computer\\_accounts.html](http://www.vcu.edu/it/computer_accounts.html)).

## Identification requirements

Students must provide picture identification, preferably a VCU Card, for in-person access to financial aid records. For the student's protection, information provided over the telephone and e-mail may be limited if the financial aid staff member is not confident of the student's identity.

## Eligibility for financial aid

Most students are eligible for some type of financial aid regardless of family financial circumstances. Basically, to receive aid from any of the federal or state student aid programs, students must:

- Submit a Free Application for Federal Student Aid (FAFSA) or Renewal FAFSA designating VCU (school code 003735) to receive FAFSA results.
- Demonstrate financial need, except for some loan programs.
- Have a high school diploma or a General Education Development (GED) Certificate.
- Be enrolled or accepted for enrollment to an eligible degree or certificate program.
- Be enrolled at least half time (five or more graduate credit hours).
- Be a U.S. citizen or eligible noncitizen.
- Have a valid Social Security number (unless from the Republic of the Marshall Islands, the Federated States of Micronesia or the Republic of Palau).
- Meet Satisfactory Academic Progress (SAP) standards as defined by the VCU Office of Financial Aid (the full VCU SAP policy is available on the Web at [www.enrollment.vcu.edu/financialaid/sap/grad\\_pro\\_rqmts.html](http://www.enrollment.vcu.edu/financialaid/sap/grad_pro_rqmts.html)).
- Certify that federal and state financial aid will be used for educational purposes only.
- Not be in default on a federal student loan and not owe money on a federal student grant.
- Comply with the Selective Service registration, if required.
- Not be convicted under federal or state law of sale or possession of illegal drugs.

Students admitted as provisional graduate students are eligible for federal loans at the fifth-year undergraduate level.

Detailed information can be found in the federal Student Guide, available in print form from the VCU Office of Financial Aid or electronically ([http://studentaid.ed.gov/students/publications/student\\_guide/index.html](http://studentaid.ed.gov/students/publications/student_guide/index.html)) and on the VCU Office of Financial Aid website ([www.enrollment.vcu.edu/financialaid](http://www.enrollment.vcu.edu/financialaid)).

## Applying for financial aid

The financial aid application process for the academic year begins Jan. 1. All students are encouraged to complete and submit the FAFSA as soon as possible after Jan. 1, designating VCU (school code 003735) to receive the results. In order to reduce problems, errors and omissions on the FAFSA, students are encouraged to apply electronically using FAFSA on the Web (available online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov)). Once the FAFSA is filed, the federal processor will send the student a Student Aid Report (SAR) or electronic SAR Acknowledgement, and also will electronically send the information to the VCU Office of Financial Aid, if VCU was listed as a school to receive the data. If additional information is needed to complete processing of the application, the VCU Office of Financial Aid will send the student a request for additional information. Responding promptly to such requests will ensure timely processing of the application. Once the review of FAFSA data has been completed, the Office of Financial Aid will send the student a Financial Aid Award Notification.



Please note that health profession students (dentistry, medicine, nursing or pharmacy) must provide both student and parental information on the FAFSA to apply and receive consideration for Title VII grants and loans from the Department of Health and Human Services.

### Priority filing dates

The VCU Office of Financial Aid recommends electronically filing the FAFSA by March 1\*. Students should complete the FAFSA using data from their completed tax returns. If necessary, they may use estimated tax return data in order to meet the VCU priority filing date but should be prepared to submit a copy of their completed tax returns and W2 forms to VCU as soon as possible. Students will receive their Financial Aid Award Notification after their FAFSA application data has been verified. If students have not applied for financial aid in a timely manner, they may want to participate in the VCU Installment Payment Plan, which budgets each semester's bill over four payments. Information about this plan can be found on the Student Accounting Department's Web site ([www.enrollment.vcu.edu/accounting/payments.html](http://www.enrollment.vcu.edu/accounting/payments.html)).

\* Students who do not have access to the Web may apply using the paper FAFSA, available through VCU, high schools, colleges and most public libraries. Those students completing a paper application should mail it to the federal processor by Feb. 1.

### Summer studies

Limited financial aid may be available during the summer semester. Students applying for the summer semester must file the FAFSA by March 1. Students also should complete a VCU summer aid application, available on the Financial Aid Web site under "Forms"

Students interested in financial aid for the summer semester should obtain a VCU Summer Studies [Schedule of Classes](#) (available in March) for more details.

### Study abroad

Financial assistance is available to eligible students enrolled in approved study abroad programs. All study abroad programs must be coordinated through the Office of International Education at (804) 828-8471. Students should work with a financial aid counselor to coordinate aid for their study abroad program. Information about financial aid and study abroad is available online at [www.vcu.edu/oie/eao/fin\\_aid\\_scholarships](http://www.vcu.edu/oie/eao/fin_aid_scholarships).

All study abroad course work is subject to the criteria articulated in the [transfer credit policy](#).

### Quality assurance

To ensure that information provided on the FAFSA is accurate, a student's application may be selected for review at any time during an enrollment period, and the student will be requested to provide documentation that supports the information. By signing the FAFSA, the student (and the student's parents or spouse, if applicable) agreed to furnish such documentation. If the documentation is not provided when requested, financial aid awards will be canceled and any funds already disbursed may need to be repaid.

### University bill

The Student Accounting Department issues online bills for tuition, fees and other university charges. When financial aid awards (grants, scholarships and loans) are not enough to pay university charges, the remaining balance must be paid from personal funds, credit card or the VCU Installment Payment Plan. Federal work-study awards will not be deducted from university charges because those funds are paid directly to the student, based on hours worked. Any outstanding balance owed will prevent a student from registering for courses and receiving official transcripts. Students who fail to pay their balance on time may be assessed a late payment fee and have a financial hold placed on their account. If the balance remains outstanding after the semester ends, their account may be referred to the VCU Collection Unit at which time collection costs will be assessed.

### Financial aid appeals

Financial aid eligibility decisions are made using federal, state and institutional regulations and policies. Students may appeal their eligibility if special circumstances warrant a review. Reasons for an appeal might include one of the following documented unusual circumstances:

- Loss or reduction of employment earnings.
- Disability or death of parent or spouse.
- Separation or divorce.
- Loss or reduction of untaxed income.
- Losses due to a natural disaster.
- Unusually high educational program costs.
- Unusual medical expenses.
- Dependent and child care expenses.

Any financial aid staff member can advise a student about the procedures on how to file an appeal.

### Federal financial aid refund policy

Students who receive federal Title IV grant or loan assistance and withdraw from VCU before completing 60 percent of the semester (as measured in calendar days) must have their eligibility recalculated based on the federal Return of Title IV Funds formula. This federal formula specifies that a student's financial aid eligibility must be recalculated based on the aid the student has "earned" (based on the number of days that the student was enrolled or attending VCU prior to withdrawal). Any unearned aid (for the period of enrollment that the student did not complete from the date of withdrawal to the end of the semester) must be returned to the appropriate Title IV programs from which the student was awarded.

For VCU students who withdraw prior to completing 60 percent of the semester, they will have to return or repay all or a portion of the aid funds that had been disbursed to their VCU account. As a result, students who withdraw prior to completing 60 percent of the semester may be responsible for all or a portion of their tuition/fee bill that was previously paid by financial aid sources.

If a student does not officially withdraw from all classes but fails to earn a passing grade in at least one course, federal aid regulations require that the student be considered "unofficially withdrawn," unless it can be documented that the student completed the enrollment period. Unofficial withdrawals require a Title IV refund calculation at the midpoint of the enrollment period. The reduction of federal aid will create a balance due to the university that must be repaid.

### Graduate students in undergraduate courses

Students who are classified as graduate students will be eligible for federal financial aid only if they are enrolled at least half time in courses that can be applied toward their graduate degree. The Office of Financial Aid will identify all graduate students who have applied for financial aid but have registered for less than half-time graduate course work in any given semester. If the undergraduate course work for which the student has registered is considered preparatory to the graduate degree, documentation must be provided by the student's adviser or program representative to verify which undergraduate courses are required. In these cases, the student will be eligible for federal financial aid, but it will be based on the fifth-year undergraduate loan limits. Students who have been admitted to a dual degree program can take any amount of required undergraduate coursework and will still be eligible for graduate loan limits.

### Satisfactory Academic Progress for financial aid purposes

To be eligible to receive financial aid at VCU, students must make Satisfactory Academic Progress. SAP is a combination of qualitative and quantitative components. SAP is measured by:

- **GPA.** Generally, graduate students are expected to maintain at least a 3.0 GPA as specified by their departments.
- **Completion rate.** The completion rate is measured by the number of credit hours earned divided by the number of credit hours attempted. All students must successfully complete at least 67 percent of all credit hours attempted (withdrawals, incompletes and repeated courses also are considered attempted credit hours).

The Office of Financial Aid will perform a periodic SAP review for students who receive or apply for financial aid. The reviews are typically performed at the end of the spring semester and must be completed at least once per academic year. Students will be alerted with warning letters, whenever possible, to provide them with notice that their financial aid may be in danger of being suspended. When

students fail to meet SAP requirements, they will receive suspension letters indicating that they are ineligible to receive further financial aid. Students whose eligibility for financial aid has been suspended may submit an appeal if mitigating circumstances prevented the student from maintaining SAP.

For more detailed information about the VCU Satisfactory Academic Progress policy, visit the Office of Financial Aid website ([www.enrollment.vcu.edu/finaid/sap/grad\\_pro\\_rqmts.html](http://www.enrollment.vcu.edu/finaid/sap/grad_pro_rqmts.html)).

## Types of financial aid

There are three basic types of financial aid: loans, grants and work-study. Each type has different features and advantages.

### Loans

In terms of total dollars available, long-term federal loan programs provide the most dollars. Federal loans must be repaid after the grace period and/or deferment periods have expired. Students must generally remain enrolled at least half time (five credit hours for graduate students). Multiple repayment plans may be available for most federal loans. Selected loan programs include:

- Federal Direct Loan (unsubsidized)
- Health Professions Student Loan
- Loan for Disadvantaged Students
- Nursing Student Loan

To ensure that you understand the responsibility and the obligation you are assuming as a Federal Direct Loan borrower, the U.S. Department of Education requires you to participate in entrance counseling prior to receiving a Federal Direct Loan if you have not previously received a Direct Loan, Federal Family Education Loan or Supplemental Loans to Students Loan. The entrance counseling requirement must be satisfied prior to the first loan disbursement. To complete entrance counseling for the Federal Direct Loan Program, go to [www.enrollment.vcu.edu/finaid/programs/loans/entrance\\_interview.html](http://www.enrollment.vcu.edu/finaid/programs/loans/entrance_interview.html).

You will also be required to complete exit counseling before you graduate, withdraw or drop below half-time status. To complete exit counseling for the Federal Direct Loan program, go to [www.enrollment.vcu.edu/finaid/programs/loans/exit\\_counseling.html](http://www.enrollment.vcu.edu/finaid/programs/loans/exit_counseling.html).

### Grants

Contact individual academic departments for information about grant or scholarship programs.

### Work-study

Work-study is a form of financial aid that pays wages for work performed through employment. Work-study positions are located on-campus and in approved off-campus locations. Hourly wages will vary depending on skills and experience. Job listings are posted online at [www.students.vcu.edu/careers](http://www.students.vcu.edu/careers). When interviewing for work-study positions, students should take copies of their Financial Aid Award Notifications to show prospective employers. Graduate students usually work 15 to 25 hours per week.

## Veteran and reservist educational benefits

The Veterans Affairs Office for VCU is located in Founders Hall on the Monroe Park Campus. Detailed information about eligibility for the programs listed below is available on the Web at [www.enrollment.vcu.edu/rar/veterans\\_affairs.html](http://www.enrollment.vcu.edu/rar/veterans_affairs.html). You also may contact the office to obtain printed material.

Veterans Affairs Office  
James M. Chambliss, Certifying Official  
Harris Hall  
1015 Floyd Ave.  
P.O. Box 842520  
Richmond, Virginia 23284-2520  
(804) 828-6166  
Fax (804) 828-8121  
E-mail: [jmchambl@vcu.edu](mailto:jmchambl@vcu.edu)  
Web: [www.enrollment.vcu.edu/rar/veterans\\_affairs.html](http://www.enrollment.vcu.edu/rar/veterans_affairs.html)

### Available programs

For details on any of these programs, please visit the Veteran's Affairs page of the Division of Student Affairs and Enrollment Services Web site using the link provided above.

- Montgomery – GI Bill Active Duty (Chapter 30)
- Vocational Rehabilitation (Voc Rehab, Chapter 31)
- Veterans Education Assistance Program (VEAP, Chapter 32)
- Post 9-11 GI Bill (Chapter 33)
- Survivors' and Dependents Educational Assistance Program (DEA, Chapter 35)
- Montgomery – GI Bill Selected Reserves (Chapter 1606)
- Reserve Education Assistance Program/Reap (Chapter 1607)
- Tutorial Assistance Program
- VA Work-Study Program
- Virginia Military Survivors and Dependents Education Program
- Post 9-11 – Active Duty (Chapter 33)/Yellow Ribbon Program
- Yellow Ribbon Program
- Transferability of Benefit

### Eligibility requirements

Eligible veterans/spouses/dependents must comply with the following requirements to receive educational benefits as students:

1. The veteran/spouse/dependent must be accepted into a degree or certificate program or be matriculating as a nondegree-seeking student for only two semesters before having to declare a major.
2. The veteran/spouse/dependent must request certification by completing and submitting VCU's VA Education Assistance form after obtaining approval via signature of their academic adviser and registering for courses each semester and each summer session from the Veterans Affairs Office.
3. The veteran/spouse/dependent is eligible to use benefits for only those courses taken toward a degree, certificate program or as prerequisite courses (only two semesters).
4. The veteran/spouse/dependent is not eligible to use benefits for courses taken on an audit basis, or if eliminating a course previously taken and paid for by the VA to remove a punitive grade not counted in GPA calculations via VCU's historical repeat option. The repeated course(s) will be paid for by the VA but the student will incur a debt to the VA for the course(s) eliminated from the student's GPA. The VA does not pay for courses that earn no credit.
5. The veteran/spouse/dependent is responsible for ensuring that transcripts are evaluated for transfer credits to be accepted by VCU. Students must submit this information to the Veterans Affairs Office for transmittal to the Veteran's Administration Regional Office.
6. The Veterans Affairs Office must be notified by the student/veteran/spouse/dependent if they change, add, drop or withdraw from courses originally approved by the student/ veteran/spouse/dependent's academic adviser and certified by VCU's Veterans Affairs coordinator/certifying official.

## Preparing Future Faculty Program

The Graduate School at VCU is committed to providing graduate students with ongoing opportunities for academic and professional development. Working with graduate faculty and academic graduate program directors, and with academic and administrative support from across the university, the Graduate School strives to identify, support and sponsor initiatives that will prepare the next generation of the professoriate.

In conjunction with the Center for Teaching Excellence, the Graduate School sponsors the Preparing Future Faculty Program for graduate students interested in pursuing teaching careers in academe. Complete information about the program is available on the Graduate School Web site at [www.graduate.vcu.edu/programs/pff](http://www.graduate.vcu.edu/programs/pff).

## Graduate School Mentorship Program

The Graduate School Mentorship Program matches undergraduate and graduate students in mentoring relationships. The goals of the program are twofold: first, to expose undergraduate students to the graduate experience as they consider options



and make decisions about post-baccalaureate study and as they transition from undergraduate to graduate student status, and secondly, to provide graduate students with the opportunity to develop mentoring skills as they share their own personal experiences with the undergraduate participants in the program. Complete information about the program is available on the Graduate School website at [www.graduate.vcu.edu/programs/mentor.html](http://www.graduate.vcu.edu/programs/mentor.html).

## Interdisciplinary Studies, Master of (M.I.S.)

### Admission requirements summary

#### Interdisciplinary Studies, Master of (M.I.S.)

Indicate specialization

### Student learning outcomes for the cinema and language concentration

1. Students will demonstrate competencies to analyze cinema, as well as other visual media, as a means of cultural and artistic expression, as an audiovisual language and as a frame for complex cultural dynamics.
2. Students are able to analyze film and other visual media (e.g. Internet in general, social media, documentary films, etc.) from different cultures, drawing on a general frame of intercultural communication.
3. Students will achieve fluency in English, Spanish and Italian, especially in their professional field.
4. Students will prepare for international careers through engaged learning and transatlantic team-building experiences with internships in cultural events such as the Taormina Film Festival, the French Film Festival and the Filmoteca de Andalusia.

### Student learning outcomes for the individual concentration

1. Students must demonstrate general knowledge/synthesis of two or more academic focus areas combined in an approved interdisciplinary course of study with relevant electives, research methodology and independent study through mastery of individual course work and the synthesis of that course work into the final research project.
2. Students must demonstrate oral and written communication skills to convey effectively the assimilated/synthesized knowledge gained from their interdisciplinary study.
3. Students must demonstrate ability to design and conduct an independent research project or study that exhibits skills of synthesis, analysis and critical thinking; that is directly related to the purpose of the unique scholarly goal identified as part of the admissions process; and that is reflected in the academic disciplines/focus areas in the approved course of study. Students must demonstrate the achievement of an appropriate level of competence in the ability to design and develop the research protocol and to evaluate and present the outcomes.

### Student learning outcomes for the interdisciplinary arts/off-campus concentration

1. The candidate will demonstrate achievement of appropriate skill level in at least two artistic media with respect to technique, craftsmanship and production level.
2. The candidate will demonstrate a command of the exhibition process and the discipline to form an appropriate body of work for public exhibition.
3. The candidate will demonstrate a command of writing and research at the graduate level.
4. Candidates will demonstrate how they have integrated learned techniques and craftsmanship into their K-12 classroom learning.

### Student learning outcomes for the interdisciplinary mathematics and science leadership/K-8 mathematics specialist concentration

1. Students will write mathematics (not including mathematical proofs) clearly, concisely and correctly.

2. Students will solve mathematical problems.
3. Students will use multiple representations to correctly describe mathematical ideas.
4. Students will study K-12 children's work and use it to demonstrate knowledge of children's thinking.
5. Students will write mathematical proofs clearly, concisely and correctly.
6. Students will collaborate on projects.
7. Students will read and comprehend mathematical works and mathematics education works, including national and state standards.
8. Students will analyze and synthesize mathematics education literature.
9. Students will make effective written and oral presentations to demonstrate their understanding of mathematical ideas and mathematics education ideas.
10. Students will (a) analyze and develop rich mathematical tasks for children and adults, (b) study and implement models of mathematics coaching, (c) study and implement professional development models.
11. Students will study and implement models of formative and summative assessment.
12. Students will study and implement effective methods of communicating with teachers and administrators.

### Admissions requirement summary

The Master of Interdisciplinary Studies (M.I.S.) degree program provides an opportunity for the highly motivated student to pursue a unique course of study that combines graduate course work in a learner-centered approach to graduate education. The student is an active participant in proposing a curriculum that supports an individualized and scholastically rigorous academic goal in a clearly defined, multidisciplinary program. To expand the program's range of options and interdisciplinary perspectives, the program allows for cooperative ventures with other approved colleges and universities.

### M.I.S. programs of study

Opportunities for interdisciplinary study in the M.I.S. degree program currently include the following options. **Please read all general M.I.S. information before proceeding to the individual program links.**

- [Individual programs of study](#) (developed with director of the M.I.S. program) (admissions suspended)
- [Interdisciplinary Arts/Off-campus program with a focus in studio art](#) (admissions suspended pending closure of program)
- [Mathematics and science leadership/K-8 mathematics specialist track](#)
- [Cinema and language concentration](#)

### Application for admission to all M.I.S. programs of study

Applicants to all M.I.S. programs of study must complete the VCU Graduate School Application to Graduate Study ([www.vcu.edu/graduate/ps/apply\\_options.html](http://www.vcu.edu/graduate/ps/apply_options.html)). Completed applications and all supporting documentation must be submitted to the VCU Graduate School according to the instructions provided on the [Graduate School website](#).

Students should refer to the Admissions Requirements Summary charts at the beginning of this section for a summary of current contact information, semesters of entry, application deadlines, testing requirements, and special or supplementary requirements for each M.I.S. program of study.

### Admission criteria for all M.I.S. programs of study

General admission requirements to the Graduate School and all M.I.S. programs of study include:

- Graduation from an accredited college or university or its equivalent.
- For admission to graduate study at VCU, the Graduate School requires a minimum undergraduate GPA of 3.0. In cases where the undergraduate GPA is below 3.0, additional factors, including performance in the last 60 hours of course work, may be weighted more heavily in the admissions assessment.

For students with earned graduate degrees from accredited institutions, the graduate GPA may be the primary basis for consideration.

- Satisfactory scores from a current (fewer than five years old) standardized test commonly used and deemed appropriate by the relevant discipline.
- Three letters of recommendation.
- Applicant's written statement of intent for pursuing graduate studies.
- Completion of a proposed curriculum plan outlining the applicant's specific course of study. When finalized, this plan is the official statement of the student's program requirements for completion of the M.I.S. degree.

## General M.I.S. program requirements for all M.I.S. programs of study

The initial curriculum plan proposed at the time of application must be finalized with the program director or track coordinator by the end of the first semester of study. Any subsequent changes in the curriculum plan must be made with the program director or track coordinator's approval.

In addition to any admission or individual course prerequisites, students enrolled in M.I.S. programs of study must complete a minimum of 39 graduate semester credits, including:

- At least nine, and not more than 15, graduate semester credits in each of at least two disciplines. No more than 15 credits in any one discipline (exclusive of directed research, independent study, special project or thesis requirements) may be applied toward the degree.
- A minimum of three credits in a research methods course relevant to the final research project.
- Three to six graduate credits of approved directed research, independent study, special project or thesis work. Formal approval for the final research project must be obtained from the director or track coordinator before the student begins the final project.
- Up to nine semester hours of graduate course work for transfer from other accredited institutions with the approval of director or track coordinator. (See Mathematics and Science Leadership/K-8 Mathematics Specialist track section for information regarding transfer course work.)
- At least 50 percent of the course work taken at the 600 level or higher.
- Elective course work approved by the program director or track coordinator as part of the official curriculum plan.
- A maximum of six hours taken as a nondegree-seeking student before admission to the program.

## Graduation requirements for all M.I.S. programs of study

Candidates for degrees are eligible for graduation upon completion of all academic requirements in effect at the time of the first registration in the program, provided they are continuously enrolled and provided the requirements are met within the time limit specified by the Graduate School. Students failing to satisfy the time requirement and who are readmitted to a program shall satisfy requirements in effect at the time of reacceptance into the program.

All graduate students are subject to the admission and academic standards that govern graduate study at VCU as determined by the University Graduate Council and as articulated in the [Graduate Studies at VCU](#) section of this bulletin. A checklist summarizing academic policies and requirements for graduation is provided under the General Academic Regulations heading of the Graduate Studies at VCU section. Additional instructions and guidelines for applying to graduate, is available on the VCU Graduate School website [www.vcu.edu/graduate/es/graduation.html](http://www.vcu.edu/graduate/es/graduation.html).

## Additional track-specific admission requirements

In addition to the Graduate School's general requirements for admission and academic standing, and general M.I.S. admission criteria and program requirements, applicants to M.I.S. programs must complete any track-specific requirements as indicated on the following websites:

- [Mathematics and science leadership/K-8 mathematics specialist track](#)
- [Cinema and language concentration](#)

## Cinema and language concentration

### Admission requirements summary

Cinema and language concentration			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.I.S.	Fall	May 1	GRE
<b>Special requirements:</b> For admission, domestic applicants must submit evidence of a knowledge of Italian or Spanish at the "Intermediate High" level according to ACTFL guidelines. Domestic students must submit evidence of a knowledge of the second language at the "Intermediate High" level according to ACTFL guidelines before beginning classes in Europe. For admission, European students must submit transcripts showing that they have received satisfactory grades during their undergraduate studies (minimum GPA of 3.0) and in their first year of graduate study (with no grade lower than C). Students must also pass the TOEFL or the ELP administered by VCU (iBT score of 100; CBT score of 600; or IELTS academic band score of 6.5) and submit a satisfactory GRE score before beginning classes at VCU.			

Each fall, cohorts of VCU and European students (from University of Messina and University of Cordoba) begin a two-year (four-semester) graduate program. Typically, European students spend the first semester of their first year at the University of Cordoba, second semester at the University of Messina and remaining two semesters at VCU. Domestic students spend their first and second semesters at VCU, third semester at the University of Cordoba and fourth semester at the University of Messina.

The cinema and language concentration in the M.I.S. broadens education and career options and is designed to help develop the crucial analytical and communication skills, knowledge base and international experiences needed to pursue a career in the global marketplace. Student achievement outcomes include:

- Competencies to analyze cinema as a means of cultural and artistic expression, as an audiovisual language and as a frame for complex cultural dynamics. Competencies to analyze other media will also be provided to students, drawing a general frame of intercultural communication.
- Enhanced communication skills through immersion, intensive language instruction and computer-assisted language learning in graduate course work in English, Spanish and Italian. Competencies in linguistics and semiotics will also be provided to students, in order to increase their ability to create links between different languages and across different media and to analyze different kinds of texts and codes.
- Preparation for international careers through engaged learning and transatlantic team-building experience with internships in cultural events such as the Taormina Film Festival, the French Film Festival and the Filmoteca de Andalusia.

### Admission requirements

In addition to the general VCU Graduate School requirements for admission and the overall requirements for admission to the M.I.S. program, applicants to the cinema and language concentration must:

- Submit satisfactory scores on the GRE from a current test (fewer than five years old)
- Provide three letters of recommendation
- Provide a written statement of intent outlining the student's desire to study abroad

Upon review of the application and all supporting documentation, the transatlantic curriculum in cinema and language program coordinator will contact applicants and provide further information.

**Please note that it is the student's responsibility to obtain the visas necessary to study in Europe and the United States.** However, students accepted in the cinema and language concentration will receive assistance with visa applications.

The achievement of superior language proficiency in their field is one of the most important aims of this concentration. VCU students' proficiency in Spanish and Italian will be assessed by School of World Studies' foreign language faculty according to the guidelines of The American Council on the Teaching of Foreign Languages. (See [https://www.languagetesting.com/download/LTI\\_ACTFL\\_Speaking\\_Guidelines.pdf](https://www.languagetesting.com/download/LTI_ACTFL_Speaking_Guidelines.pdf).)

Before departure for their first semester abroad (the fall semester at Cordoba begins on Oct. 15), domestic students must function on the following **minimum** level:

- Italian: PLIDA (Progetto Lingua Italiana Dante Alighieri) or equivalent, B1 or similar level. The B1 level indicates the capacity to understand spoken and written texts on familiar topics; to interact in the language to express opinions and explanations in an elementary way.
- Spanish: DELE or equivalent, intermediate-mid/threshold level B1 or similar level. The “Certificado Inicial de Español” proves candidates have sufficient knowledge of the language to handle situations which require an elementary use of the language.

### Curriculum

The cinema and language concentration requires 44 semester hours of course work, with 20 hours take and the University of Cordoba and the University of Messina and 24 hours taken at VCU. A typical curriculum for domestic students follows:

	Location	Credits
<b>First year, first semester: fall</b>		
WRLD 530 Concepts in World Cinema	VCU	3
WRLD 535 World Filmmakers	VCU	3
MATX 690 Seminar in Media, Art, and Text	VCU	3

### First year, second semester: spring

FREN 511 French Civilization	VCU	3
MATX 690 Seminar in Media, Art, and Text	VCU	3
WMNS 602 Feminist Research Epistemology and Methods	VCU	3

### Second year, first semester: fall

L-ART/06 Theory and Analysis of Cinema	Cordoba	2
L-ART/06 Cinema and City	Cordoba	2
L-LIN/05 Dialogues Between Cinema and Other Arts	Cordoba	2
L-LIN/05 Independent Research Project (based on internship)	Cordoba	3

### Second year, second semester: spring

LFIL-LET/10 Inter-semiotic Relationships: Literature, Theatre and Cinema	Messina	2
L-ART/06 History of Italian Cinema	Messina	2
L-LIN/01 Cinema Translation and Dubbing	Messina	2
L-ART/06 Internship at the Taormina Film Festival	Messina	3
M-PED/03 Intercultural Education and Pedagogy	Messina	1
M-DEA/01 Sociology and Anthropology of Culture	Messina	1
GRAD 697 Directed Research	VCU	6

### Degree candidacy and final requirement

After receiving approval to begin the final directed research project, a student must submit and receive approval for degree candidacy. The form is available on the Graduate School website at [www.graduate.vcu.edu/forms](http://www.graduate.vcu.edu/forms). Approval of degree candidacy must be obtained before a student can begin the final semester of study. Because of the sequencing of cinema and language course work, approval for the final project and degree candidacy may need to occur simultaneously.

The final requirement of the program is completion of GRAD 697 Directed Research. This is a capstone project culminating in a synthesis of the academic course work and internship experiences as outlined in the student's curriculum plan. A student must receive a grade of A or B on the final directed research in order to graduate from the program.

Before beginning the final research project, a student must have submitted a final project proposal, which must be approved by the concentration graduate program director and the M.I.S. graduate program director. The research project must be graded by a VCU graduate faculty member. Note: Registration for GRAD 697 is by permission of the M.I.S. graduate program director only.

## Individual Master of Interdisciplinary Studies programs

The Master of Interdisciplinary Studies degree program provides an opportunity for the highly motivated student to develop an individualized program of study that combines graduate course work in two or more selected disciplines. This opportunity is available for graduate students who wish to pursue a clearly defined, multidisciplinary program that does not duplicate an existing professional curriculum or specialization in a traditional program.

## Admission requirements

Admission to this program has been suspended.

In addition to the general VCU Graduate School requirements and the general requirements for admission to the M.I.S. program, applicants who are proposing an individualized course of study must:

- Submit satisfactory scores on the GRE from a current test (fewer than five years old). Substitutions of other standardized test scores may be made on a case-by-case basis, depending upon the focus areas identified in the curriculum proposal and the approval of all members of the admission committee.
- Articulate in the written statement of intent the applicant's academic goal and how the M.I.S. degree program will facilitate the achievement of that goal. In some cases, applicants may want to address how a more traditional program does not meet their specific academic goals.
- Complete a preliminary curriculum proposal form identifying the specific course work that will support the academic goal articulated in the written statement of intent. This form is available on the Master of Interdisciplinary Studies Web site at [www.vcu.edu/graduate/ps/master\\_inter.html](http://www.vcu.edu/graduate/ps/master_inter.html).

Students who are interested in working toward a degree are encouraged to apply to the program as early as possible, since a **maximum of six credit hours taken as a nondegree-seeking student may be counted toward the degree**.

Members of the admission committee include the directors of graduate study of the two focus areas identified in the curriculum proposal and the director of the M.I.S. program. To facilitate the application process, M.I.S. applicants who are proposing individualized programs of study are strongly encouraged to schedule preliminary advising interviews with the director of the M.I.S. program to discuss their academic goals and curricular proposals.

## Program requirements

In addition to the general M.I.S. degree requirements, students who are admitted to individual M.I.S. programs of study must:

- Obtain approval for all transfer and elective course work as part of the formal advising process for developing and/or changing the approved curriculum plan
- Complete a minimum of three graduate credits in a research methods course relevant to the final research project before beginning the final research project; and
- Complete three to six graduate credits as part of the final research project in the form of an approved directed research, independent study, special project or thesis. A student who chooses the thesis option must identify a thesis adviser and committee before beginning formal work on the thesis. The student will follow the thesis guidelines of the school/program of the thesis adviser, as well as the general guidelines for completion of theses/dissertations as prescribed by the Graduate School, the University Graduate Council and VCU Libraries [www.vcu.edu/graduate/es/thesis.html](http://www.vcu.edu/graduate/es/thesis.html). A student who chooses the directed research option must obtain formal approval for the final research project. Before beginning formal work on the thesis or the final directed research project, the student must submit to the director of the M.I.S. program a copy of the proposed project, along with a signed copy of the Final Project Proposal Approval form (available on the M.I.S. Web site at [www.vcu.edu/graduate/ps/master\\_individual.html](http://www.vcu.edu/graduate/ps/master_individual.html)).

## Interdisciplinary arts/off-campus program

Admission to this program has been suspended pending closure.

The School of the Arts and the Office of Community Programs jointly administer the M.I.S. Interdisciplinary Arts/Off-campus program with a focus in studio art. This program provides an opportunity for the off-campus student to earn a graduate degree by combining art courses, both studio and academic, within established guidelines. The program is not the equivalent of a Master of Fine Arts

degree; it does, however, provide an additional option for qualified persons, especially art teachers, who are interested in studio art classes. Focus areas include, but are not limited to, crafts, computers and the arts, painting, photography, printmaking, drawing, and sculpture.

Off-campus graduate art classes are offered at a variety of sites from Fairfax County, Va., to Virginia Beach — in the late afternoon during the regular school year and in all-day workshops during the summer. Both studio art and art education courses are offered. Open to all qualified students, these courses may be used for personal enrichment, license renewal or as part of a degree program. Most of the participants in the off-campus art classes are public school teachers. An exciting aspect of the program is that their students begin to benefit immediately as the teachers transfer renewed skills, knowledge and creative excitement to their own classrooms.

## Admission requirements

An admissions committee in the School of the Arts will review applications to the M.I.S. Interdisciplinary Arts program of study. The committee will look for demonstrated strength in at least one discipline. In addition to general VCU Graduate School requirements for admission and the general requirements for admission to the M.I.S. program, applicants to the M.I.S. Interdisciplinary Arts program must:

- Have taken a minimum of 36 undergraduate and/or graduate studio credits.
- In lieu of a standardized test, prepare a minimum of 10 slides, demonstrating excellence in at least one discipline, but preferably in more than one.
- Articulate in the written letter of intent interest in working in at least two disciplines in order to explore interdisciplinary potential in the arts.

Many students prefer to take a course before deciding to apply to the M.I.S. degree program. **Students who are interested in working toward a degree are encouraged to apply to the program as early as possible, however, since a maximum of six credit hours taken as a nondegree-seeking student may be counted toward the degree.**

## Program requirements

In addition to the general M.I.S. degree requirements, the Interdisciplinary Arts track requires the completion of 39 graduate semester credit hours as follows:

- At least nine and no more than 15 semester hours in each of two focus areas.
- From three to 15 semester hours of art electives, either studio or art education, outside the two chosen focus areas.
- Six semester hours of an approved final project, resulting in a graduate exhibition and written documentation.

Students should refer to the M.I.S. Interdisciplinary Arts Web site for a detailed description of program requirements, including focus areas and elective options, final project information, continuous enrollment requirements, and the Master of Interdisciplinary Studies in Interdisciplinary Arts guidelines booklet [www.vcu.edu/ocp/programs/gradart/mis\\_art.html](http://www.vcu.edu/ocp/programs/gradart/mis_art.html).

## Interdisciplinary mathematics and science leadership/K-8 mathematics specialist track

### Admission requirements summary

Interdisciplinary mathematics and science leadership/K-8 mathematics specialist track			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.I.S.	Fall Spring Summer		GRE or MAT
Special requirements:			
At least three years of successful K-8 mathematics and/or science teaching experience			
Three recommendations: at least one from an immediate supervisor or principal and at least one that addresses leadership potential			
Interview to develop program of study – program director will contact after initial review of application			
See <a href="#">website</a> for detailed discussion of program			

The Mathematics and Science Leadership/K-8 mathematics specialist track in the Master of Interdisciplinary Studies program is designed for in-service teachers of mathematics for kindergarten through eighth grades. In designing their individual programs, students, in conjunction with their advisers, may select courses offered by VCU mathematics, science and education departments and courses offered by other collaborating Virginia colleges and universities. The Graduate School, the College of Humanities and Sciences, the School of Education and the departments of Mathematics and Applied Mathematics and Teacher Education administer the program.

## Admission requirements

In addition to the general VCU Graduate School requirements for admission and the overall requirements for admission to the M.I.S. program, applicants to the Mathematics and Science Leadership/K-8 mathematics specialist track must:

- Submit satisfactory scores on either the GRE or MAT from a current test (fewer than five years old). Provisional admission may be granted pending fulfillment of this requirement.
- Provide three letters of recommendation, at least one of which must be submitted from an immediate supervisor or principal and at least one of which must address the applicant's potential for leadership.
- Provide evidence in the written statement of intent of at least three years of experience in teaching mathematics and/or science for kindergarten through eighth grades.

Upon review of the application and all supporting documentation, the Mathematics/Science Leadership program coordinator will contact applicants to schedule interviews to develop programs of study that will detail specific courses to be taken and the institutions offering those courses.

## Program description

Candidates must complete all of the general program requirements of the M.I.S. program. In addition:

- Both of the discipline focus areas are required to be in mathematics, one of the sciences or mathematics/science education.
- In designing their individual programs, students in the mathematics specialist track typically include the following courses: MATH 661, 662, 663, 664 and 665.
- At least 18 of the 39 credits, including the final project, must be granted by VCU. Up to six transfer credits may be approved, and the remainder of the credits must be from consortium partners as approved by the students' advisers, the VCU Graduate School, and the Mathematics and Science Leadership Advisory Committee.
- The final project must be supervised by a VCU graduate faculty member, may be in mathematics, science or education, and must include an indication of the relationship of the subject of the project to teaching at the kindergarten-through-eighth-grade level.



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## **2013-14 Graduate and Professional Programs Bulletin**

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**Professional study**



Virginia Commonwealth University currently offers first professional degree programs leading to the Doctor of Dental Surgery, Doctor of Medicine, Doctor of Pharmacy and Doctor of Physical Therapy degrees.

## Professional programs admissions

For information about admission to MCV Campus professional programs, refer to the professional sections of the schools of Allied Health Professions, Dentistry, Medicine and Pharmacy.

## General admission requirements and procedures

The Board of Visitors, the administration and the faculty of VCU are committed to a policy of equal opportunity in education and employment without regard to age, race, color, national origin, gender, religion, sexual orientation, veteran's status, political affiliation or disability.

## Admission requirements

Admission requirements, entrance examinations and application materials for first professional programs may be obtained by contacting the appropriate admissions office. Other detailed information including financial aid opportunities, procedures for international students, regulations and procedures, academic, curricula, and degree requirements are included in the section describing each professional program.

## Admission through VCU's Honors College

VCU undergraduate students who are members of The Honors College may apply to The Honors College Guaranteed Admission Program either before matriculation at VCU or early in their undergraduate studies. (The specific deadline for applying is set by the Program.) Honors students in the Guaranteed Admission Program may enter the professional program to which they have applied, provided they satisfy all of the requirements of the GA Program.

To be accepted in The Honors College GA Program, a student must submit a completed application form with at least two letters of recommendation and be accepted by the university, by The Honors College and by the admissions committee of the program the student wishes to enter. The admissions committee may require an interview. Final notification of guaranteed admission is made by The Honors College. For additional information, refer to the [Honors College](#) section of the Undergraduate Bulletin.

The following professional programs participate in The Honors College Guaranteed Admission Program:

Doctor of Dental Surgery  
Doctor of Medicine  
Doctor of Occupational Therapy  
Doctor of Pharmacy  
Doctor of Physical Therapy

## International students

International students should refer to the appropriate professional program's chapter for information regarding international student admission guidelines.

## Professional programs financial aid

Current information on financial aid programs, policies and procedures are available on the VCU website at [www.enrollment.vcu.edu/finaid](http://www.enrollment.vcu.edu/finaid).

To obtain printed materials or additional information, call or visit the appropriate financial aid office.

### Schools of Allied Health Professions, Nursing and Pharmacy

VMI Building, Room 334  
1000 East Marshall Street  
P.O. Box 980277  
Richmond, Virginia 23298-0277  
(804) 828-2702  
Fax (804) 827-0060  
Email: [nabdul@vcu.edu](mailto:nabdul@vcu.edu)

### School of Dentistry

Lyons Building, Room 309  
520 North 12th Street  
P.O. Box 980566  
Richmond, Virginia 23298-0566

(804) 828-9953  
Fax (804) 828-6072  
Email: [kdgillia@vcu.edu](mailto:kdgillia@vcu.edu)

### School of Medicine

McGlothlin Medical Education Center  
1201 East Marshall Street  
P.O. Box 980565  
Richmond, Virginia 23298-0565  
(804) 828-4006  
Fax (804) 827-5555  
Email: [hking1@vcu.edu](mailto:hking1@vcu.edu)

## eServices – online records access

Students are encouraged to use the eServices Web site, a password-protected service for viewing VCU student records online, to check the status of their financial aid application and award package. Students also may register for classes, print bills and more. The eServices Web site is located at [www.eservices.vcu.edu](http://www.eservices.vcu.edu).

## E-mail – official method of communication

Students are required to obtain an official VCU student e-mail account within one week of the beginning of their first semester of enrollment. Students are responsible for reading in a timely fashion university-related communications sent to their official VCU student e-mail account. The Office of Financial Aid uses e-mail to provide financial aid information, to request documentation to support financial aid application data, and to provide financial aid application status and award information. Information on how to set up an account is available online (go to the "Academic" section of "Computer Accounts" at [www.vcu.edu/it/computer\\_accounts.html](http://www.vcu.edu/it/computer_accounts.html)).

## Identification requirements

Students must provide picture identification, preferably a VCU Card, for in-person access to financial aid records. For the student's protection, information provided over the telephone and e-mail may be limited if the financial aid staff member is not confident of the student's identity.

## Eligibility for financial aid

Most students are eligible for some type of financial aid regardless of family financial circumstances. Basically, to receive aid from any of the federal or state student aid programs, students must:

- Submit a Free Application for Federal Student Aid (FAFSA) or Renewal FAFSA designating VCU (school code 003735) to receive FAFSA results.
- Demonstrate financial need, except for some loan programs.
- Have a high school diploma or a General Education Development (GED) Certificate.
- Be enrolled or accepted for enrollment to an eligible degree or certificate program.
- Be enrolled at least half time (five or more graduate credit hours).
- Be a U.S. citizen or eligible noncitizen.
- Have a valid Social Security number (unless from the Republic of the Marshall Islands, the Federated States of Micronesia or the Republic of Palau).
- Meet Satisfactory Academic Progress (SAP) standards as defined by the VCU Office of Financial Aid (the full VCU SAP policy is available online at [www.enrollment.vcu.edu/finaid/sap/ugrad\\_rqmts.html](http://www.enrollment.vcu.edu/finaid/sap/ugrad_rqmts.html)).
- Certify that federal and state financial aid will be used for educational purposes only.
- Not be in default on a federal student loan and not owe money on a federal student grant.
- Comply with the Selective Service registration, if required.
- Not be convicted under federal or state law of sale or possession of illegal drugs.

Detailed information can be found in the federal Student Guide, available in print form from the VCU Office of Financial Aid or electronically at



[http://studentaid.ed.gov/students/publications/student\\_guide/index.html](http://studentaid.ed.gov/students/publications/student_guide/index.html) and on the VCU Office of Financial Aid website.

## Applying for financial aid

The financial aid application process for the academic year begins Jan. 1. All students are encouraged to complete and submit the FAFSA as soon as possible after Jan. 1, designating VCU (school code 003735) to receive the results. In order to reduce problems, errors and omissions on the FAFSA, students are encouraged to apply electronically using FAFSA on the Web (available online at [www.fafsa.ed.gov/](http://www.fafsa.ed.gov/)). Once the FAFSA is filed, the federal processor will send the student a Student Aid Report (SAR) or electronic SAR Acknowledgement, and also will electronically send the information to the VCU Office of Financial Aid, if VCU was listed as a school to receive the data. If additional information is needed to complete processing of the application, the VCU Office of Financial Aid will send the student a request for additional information. Responding promptly to such requests will ensure timely processing of the application. Once the review of FAFSA data has been completed, the Office of Financial Aid will send the student a Financial Aid Notification.

Please note that health profession students (dentistry, medicine, nursing or pharmacy) must provide both student and parental information on the FAFSA to apply and receive consideration for Title VII grants and loans from the Department of Health and Human Services.

## Priority filing dates

The VCU Office of Financial Aid recommends electronically filing the FAFSA by March 1\*. Students should complete the FAFSA using data from their completed tax returns. If necessary, they may use estimated tax return data in order to meet the VCU priority filing date but should be prepared to submit a copy of their completed tax returns and W2 forms to VCU as soon as possible. Students will receive their Financial Aid Notification after their FAFSA application data has been verified. If students have not applied for financial aid in a timely manner, they may want to participate in the VCU Installment Payment Plan, which budgets each semester's bill over four payments. Information about this plan can be found on the Student Accounting Department's Web site ([www.enrollment.vcu.edu/accounting/payments.html](http://www.enrollment.vcu.edu/accounting/payments.html)).

\* Students who do not have access to the Web may apply using the paper FAFSA, available through VCU, high schools, colleges and most public libraries. Those students completing a paper application should mail it to the federal processor by Feb. 1.

## Summer studies

Limited financial aid may be available during the summer semester. Students applying for the summer semester must file the FAFSA for the academic year preceeding the summer semester. Students also should complete a VCU summer aid application, available on the Financial Aid Web site under "Forms"

Students interested in financial aid for the summer semester should obtain a VCU Summer Studies [Schedule of Classes](#) (available in March) for more details.

## Study abroad

Financial assistance is available to eligible students enrolled in approved study abroad programs. All study abroad programs must be coordinated through the Office of International Education at (804) 828-8471. Students should work with a financial aid counselor to coordinate aid for their study abroad program. Information about financial aid and study abroad is available online at [www.vcu.edu/oie/eao/fin\\_aid\\_scholarships/](http://www.vcu.edu/oie/eao/fin_aid_scholarships/).

## Quality assurance

To ensure that information provided on the FAFSA is accurate, a student's application may be selected for review at any time during an enrollment period, and the student will be requested to provide documentation that supports the information. By signing the FAFSA, the student (and the student's parents or spouse, if applicable) agreed to furnish such documentation. If the documentation is not provided when requested, financial aid awards will be canceled and any funds already disbursed may need to be repaid.

## University bill

The Student Accounting Department issues online bills for tuition, fees and other university charges. When financial aid awards (grants, scholarships and loans) are not enough to pay university charges, the remaining balance must be paid from personal funds, credit card or the VCU Installment Payment Plan. Federal work-study awards will not be deducted from university charges because those funds are paid directly to the student, based on hours worked. Any outstanding balance owed will prevent a student from registering for courses and receiving official transcripts. Students who fail to pay their balance on time may be assessed a late payment fee and have a financial hold placed on their account. If the balance remains outstanding after the semester ends, their account may be referred to the VCU Collection Unit at which time collection costs will be assessed.

## Special circumstances

Financial aid eligibility decisions are made using federal, state and institutional regulations and policies. Students may appeal their calculated contribution if special circumstances warrant a review. Reasons for an appeal might include one of the following documented unusual circumstances:

- Loss or reduction of employment earnings.
- Disability or death of parent or spouse.
- Separation or divorce.
- Loss or reduction of untaxed income.
- Losses due to a natural disaster.
- Unusually high educational program costs.
- Unusual medical expenses.
- Dependent and child care expenses.

Any financial aid staff member can advise a student about the procedures on how to file an appeal.

## Federal financial aid refund policy

Students who receive federal Title IV grant or loan assistance and withdraw from VCU before completing 60 percent of the semester (as measured in calendar days) must have their eligibility recalculated based on the federal Return of Title IV Funds formula. This federal formula specifies that a student's financial aid eligibility must be recalculated based on the aid the student has "earned" (based on the number of days that the student was enrolled or attending VCU prior to withdrawal). Any unearned aid (for the period of enrollment that the student did not complete from the date of withdrawal to the end of the semester) must be returned to the appropriate Title IV programs from which the student was awarded.

For VCU students who withdraw prior to completing 60 percent of the semester, they will have to return or repay all or a portion of the aid funds that had been disbursed to their VCU account. As a result, students who withdraw prior to completing 60 percent of the semester may be responsible for all or a portion of their tuition/fee bill that was previously paid by financial aid sources.

If a student does not officially withdraw from all classes but fails to earn a passing grade in at least one course, federal aid regulations require that the student be considered "unofficially withdrawn," unless it can be documented that the student completed the enrollment period. Unofficial withdrawals require a Title IV refund calculation at the midpoint of the enrollment period. The reduction of federal aid will create a balance due to the university that must be repaid.

## Satisfactory Academic Progress

To be eligible to receive financial aid at VCU, students must make Satisfactory Academic Progress (SAP). SAP is a combination of qualitative and quantitative components and is measured by completion rate. The completion rate is the number of credit hours earned divided by the number of credit hours attempted. All students must successfully complete at least 67 percent of all credit hours attempted (withdrawals, incompletes and repeated courses also are considered attempted credit hours).

The Office of Financial Aid will perform a periodic SAP review for students who receive or apply for financial aid. The reviews are typically performed at the end of the spring semester and must be completed at least once per academic year.

Students will be alerted with warning letters, whenever possible, to provide them with notice that their financial aid may be in danger of being suspended. When students fail to meet SAP requirements, they will receive suspension letters

indicating that they are ineligible to receive further financial aid. Students whose eligibility for financial aid has been suspended may submit an appeal if mitigating circumstances prevented the student from maintaining SAP.

For more detailed information about the VCU Satisfactory Academic Progress policy, visit the Office of Financial Aid website ([www.enrollment.vcu.edu/finaid/sap/grad\\_pro\\_rqmts.html](http://www.enrollment.vcu.edu/finaid/sap/grad_pro_rqmts.html)).

## Types of financial aid

There are three basic types of financial aid: loans, grants and work-study. Each type has different features and advantages.

### Loans

In terms of total dollars available, long-term federal loan programs provide the most dollars. Federal loans must be repaid after the grace period and/or deferment periods have expired. Students must generally remain enrolled at least half-time (five credit hours for graduate students). Multiple repayment plans may be available for most federal loans. Selected loan programs include:

- Federal Direct Loan (unsubsidized)
- Health Professions Student Loan
- Loan for Disadvantaged Students
- Nursing Student Loan
- Primary Care Loan

Borrowers in the Federal Direct Loan Program are required to complete loan counseling prior to the first disbursement if you have not previously received a Direct Loan, Federal Family Education Loan or Supplemental Loans to Students Loan. To complete entrance counseling for the Federal Direct Loan Program, go to [www.enrollment.vcu.edu/finaid/programs/loans/entrance\\_interview.html](http://www.enrollment.vcu.edu/finaid/programs/loans/entrance_interview.html).

You will also be required to complete exit counseling before you graduate, withdraw or drop below half-time status. To complete exit counseling for the Federal Direct Loan program, go to [www.enrollment.vcu.edu/finaid/programs/loans/exit\\_counseling.html](http://www.enrollment.vcu.edu/finaid/programs/loans/exit_counseling.html).

### Grants

Contact individual academic departments for information about grant or scholarship programs.

### Work-study

Work-study is a form of financial aid that pays wages for work performed through employment. Work-study positions are located on campus and in approved off-campus locations. Hourly wages will vary depending on skills and experience. Job listings are posted to the Career Center's Web site ([www.students.vcu.edu/careers](http://www.students.vcu.edu/careers)). When interviewing for work-study positions, students should take copies of their Financial Aid Notifications to show prospective employers.

## Veteran and reservist educational benefits and programs

The Veterans Affairs Office for VCU is located in Founders Hall on the Monroe Park Campus. Detailed information about eligibility for the programs listed below is available on the Web at [www.enrollment.vcu.edu/rar/veterans\\_affairs.html](http://www.enrollment.vcu.edu/rar/veterans_affairs.html). You also may contact the office to obtain printed material.

Veterans Affairs Office  
James M. Chambliss, Certifying Official  
827 West Franklin Street  
P.O. Box 842520  
Richmond, Virginia 23284-2520  
(804) 828-6166  
Fax (804) 828-8121  
E-mail: [jmchambl@vcu.edu](mailto:jmchambl@vcu.edu)  
Web: [www.enrollment.vcu.edu/rar/veterans\\_affairs.html](http://www.enrollment.vcu.edu/rar/veterans_affairs.html)

### Available programs

For details on any of these programs, please visit the Veteran's Affairs page of the Division of Student Affairs and Enrollment Services Web site using the link provided above.

- Montgomery – GI Bill Active Duty (Chapter 30)

- Vocational Rehabilitation (Voc Rehab, Chapter 31)
- Veterans Education Assistance Program (VEAP, Chapter 32)
- Post 9-11 GI Bill (Chapter 33)
- Survivors' and Dependents Educational Assistance Program (DEA, Chapter 35)
- Montgomery – GI Bill Selected Reserves (Chapter 1606)
- Reserve Education Assistance Program/Reap (Chapter 1607)
- Tutorial Assistance Program
- VA Work-Study Program
- Virginia Military Survivors and Dependents Education Program
- Post 9-11 – Active Duty (Chapter 33)/Yellow Ribbon Program
- Yellow Ribbon Program
- Transferability of Benefit

### Eligibility requirements

Eligible veterans/spouses/dependents must comply with the following requirements to receive educational benefits as students:

1. The veteran/spouse/dependent must be accepted into a degree or certificate program or be matriculating as a nondegree-seeking student for only two semesters before having to declare a major.
2. The veteran/spouse/dependent must request certification by completing and submitting VCU's VA Education Assistance form after obtaining approval via signature of their academic adviser and registering for courses each semester and each summer session from the Veterans Affairs Office.
3. The veteran/spouse/dependent is eligible to use benefits for only those courses taken toward a degree, certificate program or as prerequisite courses (only two semesters).
4. The veteran/spouse/dependent is not eligible to use benefits for courses taken on an audit basis, or if eliminating a course previously taken and paid for by the VA to remove a punitive grade not counted in GPA calculations via VCU's historical repeat option. The repeated course(s) will be paid for by the VA but the student will incur a debt to the VA for the course(s) eliminated from the student's GPA. The VA does not pay for courses that earn no credit.
5. The veteran/spouse/dependent is responsible for ensuring that transcripts are evaluated for transfer credits to be accepted by VCU. Students must submit this information to the Veterans Affairs Office for transmittal to the Veteran's Administration Regional Office.
6. The Veterans Affairs Office must be notified by the student/veteran/spouse/dependent if they change, add, drop or withdraw from courses originally approved by the student/ veteran/spouse/dependent's academic adviser and certified by VCU's Veterans Affairs coordinator/certifying official.

## Professional programs tuition and student fees

Students must pay all applicable tuition, room, board and other fees when due, as described in this section. Students who fail to pay these charges on time may be assessed a late payment fee. The university reserves the right to revise or alter all tuition and fees, regulations pertaining to student fees, and collection procedures at any time. In addition to expenses billed by the university, students should make allowances for books, clothing, supplies, travel and other out-of-pocket costs when figuring their total yearly expenses at the university.

### Student financial responsibilities

Students who enroll:

- Are responsible for full payment of tuition and fees generated from their registration.
- Are responsible for full payment of all room, board and other applicable miscellaneous charges.
- Are responsible for keeping a current mailing address on file with Enrollment Services. Refunds and tax forms are not issued to students with inactive mailing addresses.
- Are responsible for establishing an official VCU e-mail address and reading their e-mail on a regular basis, since e-mail will be used to notify students

when their invoices are available in the payment and billing site. Paper bills are not sent to enrolled students. Failure to acknowledge and review the electronic invoice does not relieve responsibility for timely payments. Other important notifications are also sent to the official VCU e-mail address.

Tuition and fees are categorized and described on the Student Accounting Web site at [www.enrollment.vcu.edu/accounting/tuition\\_fees.html](http://www.enrollment.vcu.edu/accounting/tuition_fees.html).

The university reserves the right to revise or alter all fees, regulations pertaining to student fees and fee collection procedures at any time.

### Tuition and fee schedule

Tuition and fees are categorized and described on the Student Accounting website at [www.enrollment.vcu.edu/accounting/tuition\\_fees.html](http://www.enrollment.vcu.edu/accounting/tuition_fees.html). Questions regarding tuition and fees may be directed to the Student Accounting Department at (804) 828-2228, or by emailing [stuacctg@vcu.edu](mailto:stuacctg@vcu.edu). The university reserves the right to revise or alter all fees, regulations pertaining to student fees and fee collection procedures at any time.

### University fee

This fee is used by the university to support student facilities, campus development, intercollegiate athletics and other programs. Full-time students pay a flat-rate university fee each semester. Part-time students pay this fee on a per-credit basis.

### Student activity fee

This fee is used to support social, cultural and other student activities on the Monroe Park Campus. These activities include concerts, plays, student organizations and publications. Full-time students on the Monroe Park Campus pay a flat-rate student activity fee, while part-time students on the same campus pay this fee on a per-credit basis. Students on the MCV Campus are not charged this fee.

### Student Government Association fee

This fee is used to support social, cultural and other student activities on the MCV Campus. The fee is charged to all full-time and part-time MCV Campus students. Monroe Park Campus students are not charged this fee.

### Student health fee

All full-time students on both campuses must pay the student health fee. Part-time students may participate in the University Student Health Services on an elective basis by paying the student health fee. The University Student Health Services offers unlimited office visits for acute and chronic ailments, after-hours phone advice for an urgent medical problem and most laboratory tests associated with acute illnesses ordered by the USHS staff, among other services. The fee does not cover accidental injury, emergency room visits or hospitalization. More specific information as to what is covered and not covered by the fee is available on the [USHS website](#).

### Technology fee

The technology fee is charged to all undergraduate, graduate and professional students in all programs. Full-time students pay a flat rate. Part-time students pay a per-credit-hour rate. The fee is used to provide for students' technological needs and to support university-wide technological initiatives.

### Off-campus fees

The university fee, the student activity fee, the student government association fee (except School of Social Work) and the student health fee are not charged to students taking off-campus classes.

### Capital outlay fee

This fee is charged to all full-time and part-time non-resident, on-campus students. The fee is mandated by the General Assembly to reimburse the State for debt service costs attributable to non-resident students related to the financing of buildings and equipment.

### Online course fee

The online course fee is charged for undergraduate and graduate online courses. The fee covers operational and personnel support to develop and maintain online courses.

### Special fee charges

Because of specialized programs, various schools and departments may charge each student additional fees to cover special materials, equipment breakage and other costs. For specific information about special fees, refer to the Student Accounting Department Web site or to the specific school or department section in this bulletin.

### Student billing

Students must pay all applicable tuition, fees, room and board when due. Students are notified at their official VCU email address when their bills are available on the billing and payment site. No paper bills are sent to enrolled students. Tuition and fees for preregistered students, along with charges for housing and dining plans where applicable, are due by the official start of each semester. After the registration period all other students are sent a notification at their official VCU email address when their electronic bill has been issued and should pay by the payment due date indicated on the electronic invoice. Students who fail to pay these charges on time may be assessed a late payment fee. The university reserves the right to revise or alter all tuition and fees, regulations pertaining to student fees, and fee collection procedures at any time. In addition to expenses billed by the university, students should make allowances for books, clothing, supplies, travel and other out-of-pocket costs when figuring their total yearly expenses at the university.

The Installment Payment Plan assists students in meeting the cost of their higher education by offering a convenient payment option. The university-administered IPP is offered only during the fall and spring semesters. The plan distributes the cost of tuition, fees, housing and dining charges for a semester into four equal installments.

All students attending the university with current charges of \$100 or more are eligible to participate. All prior semester balances must be paid in full to be eligible.

Students who receive financial aid are also eligible for participation in the IPP. These students may deduct their aid to determine the net total due. If it is \$100 or more, the remaining amount may be paid in installments.

In some cases, a student may receive a financial aid refund, and then subsequent charges for the semester are added to the student's account. If the student has received a refund, he or she is ineligible to participate in the IPP unless the refund has been repaid to the university in full. The student must then pay the first installment and follow the instructions to enroll in the IPP.

There is a \$25 nonrefundable application fee payable with the first installment of each semester. Interest is not assessed on the outstanding balance; however, installments not paid by the payment due date are subject to a late payment penalty. Information about how to participate in the IPP is available online at [www.enrollment.vcu.edu/accounting/payment\\_plan.html](http://www.enrollment.vcu.edu/accounting/payment_plan.html).

### Drop vs. withdraw

Drop charges are removed to indicate that the student never attended the class. The student is not eligible to receive financial aid, and any financial aid already credited to the student's account based on the original course registration will be removed from the student's account, which may create a balance due to the university.

Withdraw results in the academic grade of W. Charges are assessed and adjusted according to the University Refund Policy. Students may owe a balance to the university.

### Refund of tuition and fees

The official university tuition and fee policy, applicable for the fall and spring semesters only (excluding short/nonstandard courses), is outlined below. Refunds are calculated on a course-by-course (per-credit-hour) basis, disregarding the full-time cap amounts. Students who are enrolled full-time and withdraw from courses may not receive a refund.

- Students dropping/withdrawing from courses through the first week of class will be entitled to a 100 percent refund of tuition and fees.
- Students withdrawing from courses through the second week of class may be entitled to an 80 percent refund of tuition and the university fee.
- Students withdrawing from courses through the third week of class may be entitled to a 60 percent refund of tuition and the university fee.
- Students withdrawing from courses through the fourth week of class may be entitled to a 40 percent refund of tuition and the university fee.
- Students withdrawing from courses after the fourth week of class are not entitled to receive a refund of tuition and fees.

The refund policy and deadlines of the English Language Program (ELP) are different from the university's refund policy for academic courses. Details of the policy may be obtained from the English Language Program Office.

A full refund for Holiday Intersession will be granted if the course is dropped before 4:30 p.m. on the day of the first class meeting. Partial refunds are not granted.

A full refund for a short/nonstandard course's tuition and applicable fees will be granted if the course is dropped no later than the day following the first day of a given class. Partial refunds are not granted.

A full refund for summer tuition and applicable fees will be granted if the course is dropped no later than the day following the first day of a given class. (This policy also is applicable if the class does not meet on two consecutive days.) Students reducing their academic course loads to fewer than full time (12 credits for undergraduates and nine credits for graduates) before the end of the last day to drop a course will be entitled to a refund of tuition and applicable fees reflecting the reduced course load. Partial refunds are not granted for the summer session.

Students who are financial aid recipients and withdraw from all courses prior to completing 60 percent of the semester are subject to the Federal Return of Title IV Funds Policy. For more details see [Federal Financial Aid Refund Policy](#).

Refunds will be computed based on the actual withdrawal date certified by the Office of Records and Registration. Refunds will not be made to students who do not attend classes and have not completed the required withdrawal procedure. Refund processing may take approximately two to three weeks. Exceptions to this refund policy are made only in rare instances. Written application for an exception must be filed in the Student Accounting Department to the Refund Appeals Committee within three years.

Refer to the Residential Housing contract and Dining Services' "Terms and Conditions" for housing and dining services refunds.

Requests for refunds that are not generated from the overpayment of financial aid should be made in writing to: VCU Student Accounting Department, P.O. Box 843036, Richmond, VA 23284-3036. Refund request forms are available at the Student Services Centers, 1015 Floyd Ave. or 1000 E. Marshall St., Room 323, and on the Web at [www.vcu.edu/enroll/forms](http://www.vcu.edu/enroll/forms).

In accordance with credit card regulations, the university will refund any credit balance that may result on a student's account as the outcome of a credit card payment back to the credit card account. The remaining credit balance, if any, will be refunded to the student.

Students are responsible for paying any increase in charges that may occur after the generation of any refund.

## Outstanding charges

Students who fail to meet payments when due will be assessed late payment penalties and will be denied registration for future classes until they have paid all accrued amounts owed. Students with balances owed to the university will not be issued degrees, official transcripts of grades or graduate reports until all charges are paid in full.

Any communication disputing an amount owed, including an instrument tendered as full satisfaction of a debt, must be submitted to the Director of Student Accounting, Student Accounting Department, Virginia Commonwealth University, P.O. Box 843036, Richmond, VA 23284-3036.

Pursuant to Section 2.2-4805 et seq., of the Code of Virginia, and in accordance with rules and regulations promulgated by the State Comptroller and Attorney General of the commonwealth of Virginia, VCU will charge interest, costs and fees on all accounts past due.

VCU is participating in the Virginia Set-off Debt Collection Act of 1981. Under the provisions of this act, a Virginia individual income tax refund will be subject to the university's claim for unpaid balances of tuition and fees.

A student who pays a past due balance with a dishonored check may be subject to having his or her current and/or future registration cancelled. A charge of \$50 is levied for all dishonored checks.

## Military services tuition relief, refund and reinstatement guidelines

These guidelines apply to students whose service in the uniformed services (military) has necessitated their sudden withdrawal or prolonged absence from their enrollment at Virginia Commonwealth University and provides for the required re-enrollment of such students. Students are offered the following enrollment secession options:

1. Drop all courses before the end of the add/drop period and receive a full reduction of tuition and fee charges. Students residing in university housing and participating in a dining plan will be released from their housing and dining service contracts and will receive a prorated refund of these charges. Students will be asked to sign the drop request form with the director of military student services indicating that they are not receiving a financial aid refund. If the reduction of charges results in an overpayment on the account after any financial aid or third party awards have been reduced, the student will be issued a refund.

This option might best meet the needs of students who are called to active duty service during the first week of school and did not receive a financial aid refund check or direct deposit.

2. Receive a grade of Incomplete (IM – incomplete military) in one or all courses. Students residing in university housing will be released from their housing and dining service contracts and will receive a prorated refund of these charges. Students who chose to take a grade of IM will not have tuition and fees reduced for these courses because, upon receipt of an approved change of grade, credits will still be earned for the semester. Students will have 12 months from the date that they return from active service to complete the course work and earn a course grade. If a student received financial aid, the amount recovered to the financial aid accounts will follow the Federal Financial Aid Refund Policy.

This option might best meet the needs of students who have essentially completed all course work in a class for the semester, but have yet to turn in a final project, an exam or other materials. It should be agreed upon between the instructor and the student that the remaining course work can reasonably be completed during the 12-month period.

3. Accept administrative withdrawal (WM – withdrawn military) from all courses as of the effective date of the orders to active duty. If this option is elected, a full refund of all tuition, fees and prorated room and dining charges will be made. If a student received financial aid, the amount recovered to the financial aid accounts will follow the Federal Financial Aid Refund Policy. If the reductions of charges results in an overpayment on the account after any financial aid or third party awards have been reduced, the student will be issued a refund.

This option might best meet the needs of students who are called to national service in the middle of a semester and have not completed 75 percent of their class requirements. This option also might best meet the needs of students who are leaving the university during the first week of class and received a financial aid refund check or direct deposit as a result of their financial aid.

4. Students who have completed 75 percent of the course requirements at the time of military activation and, notwithstanding certain exceptions noted below, who meet requirements as determined and agreed upon by the faculty instructor and the student may receive full course credit.

Students may receive full course credit if 75 percent of course requirements have been completed, under certain circumstances. The instructor is responsible for determining what percentage of course requirements have been completed based on factors to include but not limited to contact time, examinations, projects, work experience and clinical experience. The awarding of full credit cannot be made where the incomplete requirements



are essential components of the course or program required by law or regulatory bodies, required for competency in the work place, or required to complete licensure examinations.

### Leaving the university

To initiate this process, the student must provide the Office of Military Student Services with a copy of his or her active duty orders in addition to a printed copy of his or her course registration for that semester and indicate Option 1, 2, 3 or 4 for each course. If Option 4 is selected, the student must provide documentation from the instructor. The director of military student services will forward all documentation to the university registrar to take the appropriate enrollment action, post the appropriate grades and send a copy of the orders and a copy of the student course request statement to the director of financial aid and the director of student accounting.

### Returning to the university

Students who withdrew from the university as a result of military deployment, mobilizations or duty changes are entitled to return without having to requalify for admission so long as the student (a) returns after a cumulative absence of no more than five years and (b) notifies the appropriate admissions office of the intent to return to the university not later than three years after the completion of military service obligation. The student may return to the university in the same program of study. With the consultation of an adviser, a comparable program of study may be chosen for discontinued programs.

### Tuition determination and student classification

Tuition is determined by the number of credit hours a student is taking, the student's residency classification, course of study and classification level.

### In-state residency

Eligibility for in-state tuition benefits is determined by Section 23-7.4 of the Code of Virginia. Refer to the [Determination of student classification for in-state tuition purposes](#) in the About VCU section of this bulletin for the complete code.

All applicants to VCU who want to be classified as Virginia residents must complete the Application for Virginia In-state Tuition Rates included in the graduate application. The residency determination of the applicant will be conveyed at the time of admission. New and continuing students initially classified as non-Virginians for tuition purposes may request a review of the initial residency determination by completing an Application for Change of Domicile available from the Office of Records and Registration (online). The student must present clear and convincing evidence that he or she is not residing in the state primarily to attend school. The application deadline is 30 days prior to the start of the semester, and it is the responsibility of the student to establish or to file an appeal to change his/her residency classification prior to the start of classes for the semester under consideration. In accordance with the Code of Virginia, applications received after the start of the semester must be considered for the next semester. Submit completed applications with documentation to the university residency appeals officer. Processing may require four to six weeks; therefore it is strongly recommended that applications be submitted earlier than the stated deadline.

Our service to students is limited to assuring that they understand the procedures for appealing and that they have access to information about the relevant sections of the Code of Virginia. We provide information about the steps of our process and access to the applicable sections of the statute and the associated guidelines. We provide qualified staff to review the appeals and make decisions based on the information students provide. What we cannot do is provide advisement to students as to how to present their case for review; we cannot become the student's advocate since we must make the decision.

Students approved for a change to in-state status for tuition purposes are notified by mail with copies of their approval letters sent to the Office of Financial Aid and the Student Accounting Department. Students denied this status also are notified by mail. The denial letter informs the student of procedures for appeal of this decision, to include filing an appeal with the University Residency Appeals Committee. Students who submit fraudulent applications, falsify documentation or conceal information will be subject to reclassification, payment of all nonresident fees owed and university discipline.

Please note that a student with in-state status for tuition purposes who exceeds 125 percent of the credit hours needed to complete his program will be assessed a tuition surcharge.

## Professional programs general academic regulations

The bulletin of record for a professional student is the Professional Programs Bulletin in effect at the time of the student's official admission to the degree program (as specified in the student's official letter of admission). The effective bulletin contains the official requirements that the student must complete to earn the degree. A student who does not maintain continuous enrollment must reapply to the program and will be subject to the requirements of the bulletin in effect at the time of readmission. Exception to this policy must be approved by the student's dean or dean designee.

The university reserves the right to revoke any degree, certificate or other university recognition for cause. In addition, any time following the award of a degree, certificate or other university recognition, the university reserves the right to take appropriate action, including, but not limited to, the revocation of such degree, certificate or other university recognition, on the basis of academic misconduct discovered subsequent to, but which occurred prior to, the awarding of the degree, certificate or other university recognition. More specifically, when an action that constitutes a violation of the VCU Honor System leads to a finding that invalidates a major piece of work required for a degree, certificate or other university recognition so that the validity of the degree, certificate or other university recognition is jeopardized, the student or former student will be subject to a sanction that may include (a) rejection of a thesis, dissertation or other work, (b) revocation of a certification or other university recognition or (c) revocation of a degree.

### Course interpretation

A single number listing for a course, such as MGMT 648, indicates that it is a one-semester course and may be offered each semester or only one semester each year.

Courses listed with a double number, such as THEA 603, 604 and designated as semester courses, consist of two one-semester courses, either semester of which may be taken without the other.

Courses listed with a double number, such as APPM 575-576, are designated as continuous courses and consist of two one-semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the successful completion of the first. The university reserves the right to withdraw any course or program.

### Course listings

#### Identification of symbols

I	A course offered in the first semester
II	A course offered in the second semester
I, II	A course offered in each semester
I and II	A course continued through two semesters
S	A course offered in summer sessions

### Course numbering

All schools and programs within VCU use the following course numbering system. All course numbers consist of three digits (XXX). The first digit relates to the course level as follows:

#### 0XX noncredit courses

Courses offered for students to make up deficiencies in previous training or to improve certain basic skills.

#### 1XX and 2XX undergraduate, lower level

Courses with these numbers are offered primarily for undergraduate students and may not be used for graduate credit, although graduate students may be required to register for courses at this level to gain a necessary foundation for other course work.

#### 3XX and 4XX undergraduate, upper level

Courses offered for advanced undergraduates and that usually constitute the major portion of specific program work leading to the baccalaureate degree. On occasion, graduate students will be advised by their graduate advisers to enroll in

prerequisite 4XX courses. Graduate programs can require that 400-level courses be taken, but credit hours in these courses cannot count toward the graduate degree or in the graduate GPA (effective fall 2004).

### 5XX introductory graduate courses

Graduate students enroll for credit in these courses through the normal graduate advising system. Departments may limit the number of 500-level courses applicable to a graduate degree program. Advanced undergraduates may enroll in these courses for credit with consent of the offering department. Credit is applicable toward only one degree unless a student is admitted to a course of study that allows a defined number of shared courses.

### 5XX professional graduate courses

First year, first professional (medicine, dentistry, pharmacy and physical therapy) courses normally open to students enrolled in the M.D., D.D.S., Pharm.D. and D.P.T. programs. Certain courses of this group may be designated by the department and approved by the University Graduate Council for graduate credit.

### 6XX, 7XX and 8XX graduate courses

Graduate students enroll for credit in these courses through the normal graduate advising system. Credit is applicable toward only one degree unless a student is admitted to a course of study that allows a defined number of shared courses.

### 6XX and 7XX professional graduate courses

6XX Second year, first professional (medicine, dentistry, pharmacy and physical therapy [second and third year]) courses normally open only to students enrolled in the M.D., D.D.S., Pharm.D. and D.P.T. programs. Certain courses of this group may be designated by the department and approved by the Graduate Council for graduate credit.

7XX Third and fourth year, first professional (medicine, dentistry and pharmacy) courses normally open only to students enrolled in the M.D., D.D.S. and Pharm.D. programs. Certain courses of this group may be designated by the department and approved by the Graduate Council for graduate credit.

### Grade review procedure

If a student thinks that a grade is inaccurate, the situation should be discussed with the faculty member. This will allow the faculty member to explain how the final grade was determined and, if an error is detected, to submit a change of grade.

If the student still thinks that the grade was assigned unfairly, a written appeal should be submitted to the department chair. Upon receipt of the written appeal, the department chair shall provide the student with a copy and explanation of the Grade Review Procedure and shall ensure that the requirements of the Grade Review Procedure are followed.

If the department chair is unable to resolve the complaint, then the dean of the school in which the course was offered will form a grade review committee as described in the Grade Review Procedure policy and will submit its decision to the dean of the school. The decision communicated by the dean of the school in which the program resides is the final decision and will be distributed to the student, faculty member(s) and department chair.

In cases concerning grades awarded for the fall semester, the written appeal must be submitted to the department chair no later than 30 calendar days after the beginning of the following spring semester. In cases concerning grades awarded for the spring semester or summer sessions, the written appeal must be submitted no later than 30 calendar days after the beginning of the following fall semester.

### Grading system

Work quality is measured by the four-point grade system with the following equivalents:

Grade symbol and meaning	Grade-point value per semester credit
A	4.0
B	3.0
C	2.0
D	1.0

F	0.0
P/F (Pass/Fail)	0.0
PR	0.0
S/U (Satisfactory/Unsatisfactory)	0.0

All other grades are temporary, carry no credit and are not used in the computation of a GPA. Refer to the following pages for an explanation of the use of the grades of satisfactory and unsatisfactory in relation to thesis/dissertation/research classes.

The number of grade points earned is computed by multiplying the grade-point value for the letter grade by the number of semester credits for the course. As an example, a student receiving an "A" (i.e., four grade points) in a three-credit course receives 12 grade points.

The grades of accepted transfer courses are not included in the computation of the VCU GPA. Graduate students are not designated as special honors graduates (i.e., cum laude, magna cum laude, summa cum laude) on transcripts or diplomas upon completion of their programs.

No graduate student shall be awarded degree credit for remedial work. Students advised to take any level course for remedial work should be notified in writing that the course credit shall not apply to the degree they are pursuing. Other bodies may rule later, should the student wish to apply the credit to some other degree.

### Grade of audit (AU)

Class size permitting, students may register for courses on an audit basis. A student may register for audit only during add/drop and late registration periods as a new registration and not as a change from credit to audit. Auditing a course means a student enrolls in a course, but does not receive academic credit upon completion of the course. A student who registers on an audit basis is subject to attendance regulations of that class and may be administratively withdrawn by an instructor for a violation of class requirements for audit students, before or after the normal eight-week withdrawal deadline. A student who registers for audit may be subject to other course requirements at the discretion of the instructor. Audit students are charged the regular rate of tuition and fees. An audit course is counted as part of the student's semester load in terms of classification as a full-time student. Courses taken for audit, however, do not satisfy minimum enrollment requirements for students receiving graduate teaching or research assistantships, graduate fellowships, or university graduate scholarships.

### Grade of continued (CO)

The grade of "CO" may be assigned as an interim grade for those courses that run over several grade reporting periods. The "CO" indicates that the course is not expected to be completed in a single semester and that students must reregister for the course. Upon completion of the course, a final grade will be assigned to the current semester, and the previous "CO" grade(s) will remain. This grade may be assigned only in courses approved for such grading.

### Grade of incomplete (I)

If because of circumstances beyond their control, students are unable to meet all the requirements of a course by the end of a semester, the mark of incomplete ("I") may be given. The awarding of a mark of "I" requires an understanding between instructor and student as to when and how the course will be completed. This understanding must be recorded on an Incomplete Grade Assignment Form that is submitted instead of a final course grade. The maximum time limit for submission of all course work necessary for removal of an incomplete is the end of the last day of classes of the next semester following the semester in which the incomplete was incurred (i.e., an incomplete awarded in the fall semester must be converted by the last day of classes in the spring semester, and an incomplete awarded in the spring or summer session must be converted by the last day of classes in the fall semester). At that time, an unremoved grade of incomplete is changed automatically to a failing grade. Individual departments and schools may have more stringent time limits. An extension of the time limit is possible, but must be approved, prior to the expiration date stated above, by the instructor and the dean of the school through which the course is offered. Written approval indicating the new time limit must be filed with the dean.

### Grade of pass (P)

This grade is awarded for certain courses to denote satisfactory completion of requirements. Courses assigned the grade of "P" will not be computed in the GPA.

## Grade of progress (PR)

The mark of “PR” may be assigned only in courses approved for such grading. Unlike the mark of “I,” “PR” will not automatically be changed to a failing grade at the end of the succeeding semester.

## Grades of satisfactory (S), unsatisfactory (U) or fail (F) in research, thesis and dissertation courses

All research, thesis, and dissertation credits taken as part of the final project (thesis/dissertation/project) for awarding a graduate degree are to be graded each semester as “S,” “U” or “F.” There is no limit to the number of these credits a student may take while pursuing completion of the degree as long as the student receives a grade of “S” for each credit. An individual department may terminate a student who does not progress satisfactorily as indicated by a “U” grade in research, thesis/dissertation/project course work. A student who receives a final grade of “F” in the thesis or dissertation will be terminated from the graduate program.

## Grade of withdrawn (W)

The grade of “W” indicates that the student has officially withdrawn from a course or has been administratively withdrawn for nonattendance. No student who has officially withdrawn from a course or who has been administratively withdrawn for nonattendance may attend subsequent meetings of the course.

## Immunization requirements

The commonwealth of Virginia and VCU require that all full-time students supply validated immunization records to University Student Health Services. This requirement must be completed prior to registering for second semester. Failure to meet these requirements will result in a hold placed on the student's second semester registration. The hold can be removed only upon receipt of the students documented records.

The immunization record must be completed fully and accurately. There are two ways a student may fulfill all requirements:

1. Students may have their health care provider transfer the information from their medical records and sign the form.

or

2. Students may complete the top demographic section of the Certificate of Immunization and attach a copy of official documents from undergraduate institutions, military records, high school or other records that fulfill all requirements to the Certificate of Immunization.

A copy of the Certificate of Immunization, which details the necessary immunizations, is available on the student health Web site at: [www.students.vcu.edu/health/docs/immunizations.pdf](http://www.students.vcu.edu/health/docs/immunizations.pdf) [PDF].

Students who cannot provide documented evidence of all required immunizations must see their health care provider, health department or Student Health Services to complete all requirements.

## MCV Campus programs

Warning, probation and suspension are defined by the program of study. Consult program adviser for further details.

## University rules and procedures

Each member of the VCU community has certain responsibilities, rights and privileges. These are stated in some detail in the VCU Rules and Procedures, and all students are responsible for being familiar with provisions of this document. The rules and procedures are printed in the VCU Insider and also are available at the Office of Judicial Affairs and Academic Integrity. This document also provides for the process whereby disciplinary action, including separation from VCU, may be taken against a member of the university community as a result of behavior that is in violation of the prohibited conduct as stated in the VCU Rules and Procedures.

Students at VCU have a right to appeal actions of an academic nature. If such action involves a course grade, the Grade Review Procedures should be followed. If such action involves computing, the Computer Ethics Policy should be followed. If such action involves dishonesty, the Academic Integrity Policy for Monroe Park Campus students should be followed.

All students enrolled in courses on the MCV Campus are subject to the VCU Honor System. Copies of the Honor Code are available in Office of Records and Registration, Sanger Hall, Room 1-055, and the Office of the Associate Dean of Student Affairs, MCV Campus, Hunton Student Center, Room 205.

In addition to those standards of conduct described in VCU Rules and Procedures and the MCV Campus Honor Code, which applies to all students enrolled on the MCV Campus, a student enrolled at the university may be dismissed from the school in which enrolled for failure to meet prescribed academic program requirements. Students appealing termination from a graduate program/department should first pursue appeals at the department and/or the school level. After receiving a decision from the department and/or school, a student has the option of filing an appeal with the dean.

VCU seeks to foster insight, imagination, creativity, resourcefulness, diligence, honesty and responsibility as well as the education of the men and women enrolled in its graduate programs. Such an enterprise can take place only where the highest standards of academic integrity exist.

Academic dishonesty is the giving, taking or presenting of information or material by students with the intent of unethically or fraudulently aiding themselves or others on any work that is to be considered in the determination of a grade or the completion of academic requirements. Students in doubt regarding any matter related to the standards of academic integrity in a given course or on a given assignment should consult with the faculty member responsible for the course before presenting the work.

## Withdrawal policies

### Leave of absence

Students may request a leave of absence from a program through written appeal to their advisers. The adviser will forward the request, following departmental governance procedures, along with a recommendation to the dean, who will respond for the university. Students who do not register for courses for more than one calendar year and who have not been granted a leave of absence must reapply for admission to VCU and to the degree program.

### Withdrawal from the university

To withdraw officially from VCU, a student must submit a complete Official Withdrawal Form to Records and Registration before the end of the 10th week of classes. The Official Withdrawal Form is obtained from Harris Hall, Room 1100, or Sanger Hall, Room 1-055. Failure to complete this form may result in the assignment of failing grades in all or some of the courses. The student's permanent academic record will indicate a grade of withdrawn (“W”) for all courses in which the student was enrolled.

### Health-related withdrawals

While students are expected to work toward completion of their degrees without interruption, health-related problems may necessitate withdrawal from the university.

- Some schools require a statement from a physician indicating the nature and severity of the condition, when a student should stop attending classes, and the estimated date of return to school.
- In the event that a student's health problem poses a danger to the student, to patients or to others with whom the student may come in contact and the student is unable or refuses to initiate steps to withdraw as stated above, administrative withdrawal of the student may be made by the dean upon consultation with the appropriate faculty and a qualified physician.
- Because curricular and course content changes may occur and a student's progress toward a degree may be affected adversely because of an extended absence, specific time periods may be imposed by individual schools with respect to the length of time allowed for absence from school. If there is a delay in return beyond the allotted time period without written consent of the dean, the student may petition for return with advanced standing.
- Some schools require that prior to return to school, the student must submit to the dean a statement from a physician. This statement should document that the condition that necessitated the withdrawal has been corrected to a point where the student can complete successfully all curriculum requirements with reasonable accommodation including classroom, laboratory, clinical and fieldwork experience.

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## Dietetic internship

A postbaccalaureate, accredited dietetic internship is offered through the VCU Health System's MCV Hospitals. Qualified applicants must have completed an undergraduate or graduate program in dietetics. For additional information contact the Dietetic Internship Director, MCV Hospitals, Virginia Commonwealth University Health System, P.O. Box 980294, Richmond, VA 23298-0294; or phone (804) 828-9108; e-mail Ann Robbins at [arobbins@mcvh-vcu.edu](mailto:arobbins@mcvh-vcu.edu); or visit the Web site at [www.vcuhealth.org/dietetic](http://www.vcuhealth.org/dietetic).





**VCU**

**Make it real.**

# **2013-14 Graduate and Professional Programs Bulletin**

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**College of Humanities and Sciences**

The faculty and staff of the College of Humanities and Sciences are dedicated to excellence in teaching, research and public service. The mission of Virginia Commonwealth University provides the framework for this pursuit of excellence.

Teaching and learning are central to the college, and the college is central to educational and intellectual life at VCU. The college meets the educational needs of a diverse student body, provides general education for all undergraduate students of the university, preparatory programs for the health sciences, engineering and law, and educates future teachers in the liberal arts and sciences. The college offers comprehensive undergraduate, graduate and professional programs of study that link a foundation of understanding and knowledge with skills on which students can build careers, become responsible citizens and continue lifelong learning.

Scholarship, creative work and professional accomplishment are essential to teaching and learning. The college is responsible for advancing understanding and increasing knowledge for its own sake, for the educational benefit of its students, and for the good of the larger community.

In both teaching and research, the College of Humanities and Sciences seriously upholds the responsibilities of being part of a public, metropolitan university. Through service and public teaching, the college meets the challenges and opportunities afforded by VCU's urban environment and by its location in the capital of the commonwealth.

The college achieves national and international recognition through the success of its students, the advancement of the disciplines and professions represented by its programs, and through the individual and collaborative research of its faculty.

## Administration

828 West Franklin Street  
P.O. Box 842019  
Richmond, Virginia 23284-2019  
(804) 828-1674  
Fax: (804) 828-1576  
[www.has.vcu.edu](http://www.has.vcu.edu)

**James Coleman**  
Professor and Dean

**Alison Baski**  
Professor and Executive Associate Dean

**Kevin Allison**  
Associate Professor and Associate Dean for Community Activities

**James Mays**  
Associate Professor and Associate Dean for Undergraduate Academic Affairs

## History

The College of Humanities and Sciences was organized in 1966 (then the School of Arts and Sciences) as a combination of several existing departments at Richmond Professional Institute: Biology, Chemistry, English, Foreign Languages, and History and Political Science. The departments of Philosophy and Religious Studies, Mathematical Sciences, Physics, Psychology, Sociology and Anthropology, and Political Science were developed or added subsequently.

Arts and Sciences began its first graduate programs in 1969 with master's programs in psychology and sociology. Master's programs in biology and mathematical sciences and a doctoral program in clinical psychology were soon to follow in 1971. In 1974, English/English education began a master's program offered cooperatively by the Department of English and the Division of Teacher Education of the School of Education. In that same year the graduate program in chemistry, a cooperative venture between the departments of Chemistry on the Monroe Park Campus and Pharmaceutical Chemistry on the MCV Campus, was transferred administratively to the School of Arts and Sciences. Beginning in 1976, a master's degree was created in mass communications, while in 1978, a doctoral program in social policy and social work started in cooperation between the Department of Sociology and Anthropology and the School of Social Work.

In July 1981, the School of Arts and Sciences and the Department of Mass Communications were organized into the College of Humanities and Sciences and the School of Mass Communications. The Master of Fine Arts in Creative Writing commenced in 1983 followed by the M.S. in Physics in 1984. Three years later, the Department of Mathematical Sciences established the M.S. in Computer

Science program, and finally, a master's degree in history was initiated in 1994 through the Department of History.

Effective July 1, 1994, the departments of Criminal Justice, Public Administration and Urban Studies joined the college from the dissolved School of Community and Public Affairs. Each department brought to the college both master's and post-baccalaureate certificate programs within their disciplines. The Public Administration program was merged with the Political Science program to form the Department of Political Science and Public Administration. The Ph.D. in Public Administration program was initially incorporated into the newly merged department and now resides in the Center for Public Policy.

## Accreditation

Chemistry (bachelor's degree)  
The American Chemical Society

Psychology (doctoral degrees: clinical, counseling)  
American Psychological Association

Public Administration (master's degree)  
National Association of Schools of Public Affairs and Administration

Urban and Regional Planning (master's degree)  
Planning Accreditation Board

## Graduate information

### Graduate programs

The College of Humanities and Sciences offers the following graduate degree programs:

Biology, M.S.  
Chemistry, M.S. and Ph.D.  
Clinical Psychology, M.S. and Ph.D.  
Counseling Psychology, M.S. and Ph.D.  
Creative Writing, M.F.A.  
Criminal Justice, M.S.  
English, M.A.  
Forensic Science, M.S.  
Health Psychology, Ph.D.  
History, M.A.  
Homeland Security and Emergency Preparedness, M.A.  
Mass Communications, M.S.  
    advertising  
    creative brand management  
    scholastic journalism  
    strategic public relations  
Mathematical Sciences, M.S.  
    applied mathematics  
    mathematics  
    operations research  
    statistics  
Media, Text and Art, Ph.D.  
Physics, M.S.  
Psychology, M.S. and Ph.D.  
Public Administration, M.P.A.  
Sociology, M.S.  
Systems Modeling and Analysis, Ph.D.  
Urban and Regional Planning, M.U.R.P.

### Post-baccalaureate graduate certificates

Applied Social Research  
Criminal Justice  
Gender Violence intervention  
Geographic Information Systems  
Historic Preservation Planning  
Homeland Security and Emergency Preparedness  
Nonprofit Management  
Planning Information Systems  
Public Management (Graduate)  
Statistics (Undergraduate)  
Transportation Planning and Analytics  
Urban Revitalization

In addition to these degree programs, the College of Humanities and Sciences offers selected graduate courses in the Department of Philosophy and the School of World Studies (Foreign Languages and Religious Studies), but does not offer graduate degree programs in these areas.

## Graduate admission requirements

In addition to the general requirements for admission to graduate studies as stated in the Graduate Studies at VCU chapter of this bulletin, persons seeking admission to any of the graduate programs in humanities and sciences should:

- Have a bachelor's degree in the discipline in which application for graduate study is made or, in some programs as noted, a bachelor's degree in some other appropriate area.
- Submit Graduate Record Examination (GRE) scores (some departments require the scores on the advanced GRE within the discipline; some departments accept LSAT and MAT scores in lieu of GREs).
- Have submitted letters of recommendation that comment on the applicant's ability to undertake graduate study in the specified area.

All applications will be considered in terms of the specific requirements for admission noted in the description of the individual programs and of the applicant's ability to perform satisfactorily in the program for which he/she has applied. The judgment of that ability will be based on the supporting material submitted with the application. Some graduate programs must limit enrollment to a fixed number of the best-qualified applicants. Final action on admission is taken by the dean of the Graduate School in consultation with the College of Humanities and Sciences and the program concerned.

Applicants whose applications reach the university after July 1 for the fall semester and after Nov. 15 for the spring semester may not have their applications processed in time for registration. The applicant whose application arrives late may be considered for admission as a special student, but there is no guarantee that the special student later will be accepted into a degree program. Refer to the programs section of the Graduate School Web site for specific deadlines for all graduate programs.

## Graduate registration

Although most students register for the first semester, which begins in August, they may arrange to begin graduate work during the spring semester with the exception of the programs in clinical and counseling psychology.

## Scholarships, assistantships, fellowships and other financial assistance for graduate students

The College of Humanities and Sciences seeks to attract and support graduate students of the highest caliber and to prepare them, through research and instruction, to meet local and national needs for highly trained men and women. Recognizing that financial limitations may inhibit some qualified students from applying, the college attempts to inform students of the options of various loans, grants and work-study opportunities that are available to them as well as assist them in financing their education by offering various forms of financial aid and facilitating the process of seeking financial assistance from external sources. Additionally, the college believes that the experience of being a teaching or research assistant reinforces the learning that takes place in the classroom. The value of teaching assistants also is recognized as being beneficial to the college's undergraduate programs.

Types of financial aid that are available to graduate students fall into three basic categories: aid that does not have to be repaid (grants, scholarships and tuition waivers), aid that does have to be repaid (loans) and aid that enables students to earn a portion of their school costs (work-study, graduate teaching assistantships and graduate research assistantships).

Offers of financial aid are based on financial need and/or skill and competency. Financial need is determined by information contained in the Federal Application for Student Aid (FAFSA) completed by the student. Not all financial aid is based on financial need. To ascertain your eligibility for the different types of financial aid, contact the VCU Office of Financial Aid at 901 W. Franklin St., P.O. Box 843026, Richmond, VA 23284-3026, (804) 828-6669, and the department to which you will be applying. The university library has reference books listing other types of scholarships and grants. International students should contact: Office of International Education at 916 W. Franklin St., P.O. Box 843043, Richmond, VA 23284-3043, (804) 828-6016.

Graduate teaching assistantships and graduate research assistantships are forms of financial aid that provide teaching and research positions for graduate students within their field of study. These are not loans and do not have to be repaid because the student is actually earning income for services rendered. Usually graduate assistants must work the equivalent of 20 hours per week. Assistantships are awarded to students who have demonstrated academic excellence. Individual departments award the assistantships, which usually include payment of tuition; the teaching and/or research duties of graduate assistants vary among departments. Graduate students interested in seeking these teaching and research positions are advised to contact the departments to which they will apply for admission.

Graduate students applying for financial assistance should remember the following tips:

- Apply early.
- Use federal tax forms to complete the FAFSA.
- Save copies of all forms completed, including tax returns.
- Check with the specific department for application requirements and deadlines.

**Students should assume they are eligible, not ineligible.**

\* Also see departmental listings.

## The student adviser and the graduate committee

All departments offering graduate degrees in the College of Humanities and Sciences provide graduate students with advising either through a single adviser, the student's graduate committee or a departmental graduate committee. For details, students should consult the departmental director of graduate studies or the department chair.

## Graduate degree requirements

- Full-time graduate status shall consist of a minimum of nine and a maximum of 15 credits per semester. No more than 12 semester credits may be earned in a summer session. See the Graduate Studies at VCU chapter of this bulletin for course load requirements for students awarded graduate assistantships.
- Graduate students are required to maintain an overall GPA of 3.0 ("B"). Students who do not maintain a "B" average during the course of their program may be dropped from the program at any time on recommendation of the appropriate department committee to the dean of the Graduate School. If students earn less than a "B" on 20 percent or more of all attempted credits, their graduate status must be reviewed for continuation by the appropriate department committee.
- At least half of the credits required in the student's program must be those designated as exclusively for graduate students; that is, those at the 600 level or above.
- Graduate students must have earned an overall GPA of 3.0 ("B") in order to receive a degree.

In addition to these requirements and those set forth in the Graduate Studies at VCU chapter of this bulletin, students must meet the requirements for specific degrees set forth in the departmental listings. Students also should consult the Continuous Enrollment Policy stated in the [Graduate Studies at VCU](#) section of this bulletin.

VCU requires registration for a defined credit-hour level during both the didactic and research phases of advanced degree training. For programs requiring the preparation of a thesis or dissertation, there is no obligatory linkage between the accumulation of credit hours and an expectation that a degree be awarded.

As a guide to monitoring the timely completion of the degree requiring a thesis or dissertation within the present enrollment framework, the accumulation of 80 credit hours for a master's degree and 180 credit hours for a doctoral degree can be taken to be reasonable credit maxima. Unless stated otherwise, these figures apply only to programs offered by the College of Humanities and Sciences.

Students are required to submit in advance of the date when they expect to receive a degree a Graduation Application Form to the dean of the College of Humanities and Sciences. Deadlines for the submission of the Graduation Application Form are listed in the academic calendars online at <http://www.vcu.edu/academiccalendars>; for departmental deadlines the student should consult the departmental adviser. Individual departments may require additional forms.

## Appeal procedures

Graduate students in the College of Humanities and Sciences have the right to appeal course grades or other academic actions on the grounds of a breach of due process. See the [Graduate Studies at VCU](#) section of this bulletin for a summary of the Grade Review Procedure. An appeal of an academic action other than a grade review is governed by the Graduate Student Academic Appeal Procedure. A copy of this document can be obtained from department offices.

## L. Douglas Wilder School of Government and Public Affairs

The L. Douglas Wilder School of Government and Public Affairs is a creative, interdisciplinary grouping of programs in the social sciences and professional arenas that provides students with the knowledge, skills and experience necessary for success in public service.

The Wilder School brings together faculty from multiple disciplines that share a common interest in public affairs. The faculty includes individuals with strong research and analytical skills and with substantive expertise in such fields as criminal justice, economics, homeland security, political science, public administration, sociology, urban planning and community development. These faculty members are committed to producing cutting-edge research and public service that can bridge the gap between theory and practice and to providing high quality, innovative and nationally competitive degree programs for our students.

To achieve this mission, the Wilder School actively fosters and promotes a wide range of endeavors, including the establishment of interdisciplinary undergraduate and graduate programs, and develops close ties with other related university programs. The Wilder School is an intellectually exciting place committed to having a genuine impact on public policy and providing an intellectually stimulating education for future public affairs professionals who share in our commitment.

## Administration

923 West Franklin Street  
P.O. Box 842028  
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(804) 828-2292  
Fax: (804) 827-1275  
[www.wilder.vcu.edu](http://www.wilder.vcu.edu)

**Niraj Verma**  
Professor and Director

**Sarah Jane Brubaker**  
Associate Professor and Associate Director

**Franklin Wallace**  
Associate Director for Operations

**John S. Mahoney**  
Associate Professor and Undergraduate Program Coordinator

**Richard Huff**  
Assistant Professor and Graduate Program Coordinator

## Program offerings

The school offers a variety of educational opportunities. Students may pursue seven undergraduate programs and an additional eight minors. Graduate programs provide options for full-time students and for practicing professionals interested in enhancing their skills or engaging in graduate-level work on a part-time basis. Current graduate offerings include nationally recognized master's programs and 12 graduate-level certificates, as well as a doctoral degree program administered by the Center for Public Policy. Wilder School programs include:

### Baccalaureate degrees

Bachelor of Science in Criminal Justice  
Bachelor of Science in Economics (with the Department of Economics in the School of Business)  
Bachelor of Arts in Homeland Security and Emergency Preparedness  
Bachelor of Arts in International Studies (with the School of World Studies)  
Bachelor of Arts in Political Science

Bachelor of Science in Sociology  
Bachelor of Science in Urban and Regional Studies

### Minors

Criminal justice  
Economics  
Homeland security and emergency preparedness  
Nonprofit management and administration  
Political science  
Public management  
Sociology  
Urban and regional studies

### Post-baccalaureate graduate certificates

Certificate in Applied Social Research  
Certificate in Criminal Justice  
Certificate in Gender Violence Intervention  
Certificate in Geographic Information Systems  
Certificate in Historic Preservation Planning  
Certificate in Homeland Security and Emergency Preparedness  
Certificate in Nonprofit Management  
Certificate in Planning Information Systems  
Certificate in Public Management  
Certificate in Public Safety  
Certificate in Transportation Planning and Analysis  
Certificate in Urban Revitalization

### Master's degrees

Master of Arts in Homeland Security and Emergency Preparedness  
Master of Public Administration  
Master of Science in Criminal Justice  
Master of Science in Sociology  
Master of Urban and Regional Planning

### Doctoral degree

Ph.D. in Public Policy and Administration (through the Center for Public Policy)

The school also offers two dual degree programs with the University of Richmond's T.C. Williams Law School. Through these programs students can simultaneously obtain a law degree (J.D.) and either the Master of Public Administration or the Master of Urban and Regional Planning.

## Graduate information

### Admission

Admission to programs of the L. Douglas Wilder School of Government and Public Affairs is available to qualified students on a rolling admissions basis. Since the demand for admission to some programs is high and space availability is limited, students are encouraged to apply well in advance of their proposed admission dates.

As outlined below, admission requirements vary by academic program. No application packet will be considered by the relevant program admissions committee until all the required materials have been submitted by the applicant.

Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

### Admission to a master's program from the certificate programs

The Graduate Certificate in Public Management and the Graduate Certificate in Nonprofit Management are designed for persons in professional positions who require a limited number of courses in contemporary management theory and skills. However, if a student later decides to pursue the M.P.A. degree, successfully completed certificate courses may be applied toward the degree. Successful completion of either certificate does not guarantee admission into the M.P.A. degree program.

The courses in the Postbaccalaureate Certificate in Criminal Justice program are the same as the master's courses and, with grades of "B" or better and upon acceptance into the master's degree program, are fully transferable to the Master of Science in Criminal Justice program.

All courses in the Certificate in Urban Revitalization may be applied to meet the requirement of the Master of Urban and Regional Planning degree. However,



successful completion of the certificate program does not guarantee admission into the M.U.R.P. Degree program.

### Provisional admission

- In rare cases, applicants who do not meet the requirements for full admission may be accepted provisionally upon recommendation of the program's admissions committee. The conditions for earning full admission are stated in the provisional acceptance letter sent by the dean of the Graduate School. Conditions usually include the requirement that the student complete the first nine hours of departmental graduate courses with a grade of "B" or better in each course.
- Provisional admission does not constitute a waiver of the requirement to submit a GRE or other standardized test score.

### Continuous enrollment requirements and expectations

To remain in good standing, students must maintain continuous registration for each fall and spring semester (except for approved leaves of absence) until they have completed all requirements. Students who fail to register for two consecutive semesters (summer sessions included) will be dropped automatically from the program and must reapply for admission in order to continue. Exceptions to this policy will be made on an individual basis by petition. Students who reapply after having been dropped for failure to register continuously will be evaluated under the bulletin requirements in effect at the time of readmittance.

A minimum GPA of 3.0 on a 4.0 scale must be maintained. Compliance with other university regulations also is required.

### Part-time students

Since the school schedules many of its courses in the late afternoon or evening, its programs accommodate both full- and part-time students. Students also may take advantage of courses offered in the summer. Thus it is possible for a part-time student taking six credit hours per semester to finish the master's degree in four years or less.

### Nondegree-seeking students

Nondegree-seeking students must have an undergraduate degree from an accredited institution and the written approval of the instructor prior to registering for any graduate-level course. Nondegree-seeking students can take no more than six credit hours without authorization from the appropriate program coordinator.

### Financial aid information

Information and application forms for financial aid may be secured from the VCU Office of Financial Aid, 901 W. Franklin St., Room 107, Richmond, VA 23284-3026, (804) 828-6669.

The L. Douglas Wilder School of Government and Public Affairs also offers a limited amount of financial assistance. Individuals interested in such assistance are urged to apply by March 30. Financial assistance available through the school includes:

**Graduate teaching assistant positions** – Duties involve helping with the instruction of courses. The level of support varies according to the work level, financial need and scholarship.

**Research assistant positions** – The stipend and number of positions depend upon the level of sponsored research carried out by the school each year.

**Tuition fellowships** – There are a limited number of tuition fellowships for full-time students within the three master's degree programs.

**T. Edward Temple Memorial Scholarship Award** – This award of approximately \$500 per year is given to an outstanding graduate student in the Master of Urban and Regional Planning program each year.

**The Senator Edward E. Willey Scholarship, the Virginia City Management Association/University Dr. T. Edward Temple Scholarship and the Leigh E. Grosenick Scholarship** – These scholarships are available to outstanding students in the Master of Public Administration program. Preference for these three scholarships is given to those who plan public careers in Virginia.

**Internships** – Paid, on-the-job internships are widely available in the Richmond area and elsewhere and are encouraged. VCU graduates also have been successful in obtaining presidential management internships in the federal government, state-government professional positions and local government positions.

### Transfer credit

With the consent of the admission committee or program coordinator, a maximum of six semester hours of appropriate graduate credit may be transferred and applied toward the Master of Science in Criminal Justice, the Master of Public Administration or the Master of Urban and Regional Planning. These hours will not have been credited toward another degree.

### School wide master's-level requirements

In addition to the program specific requirements of the Master of Public Administration, the Master of Science in Criminal Justice, and the Master of Urban and Regional Planning as outlined elsewhere in this bulletin, the Wilder School requires all master's-level graduate degree-seeking students to acquire competence in four broad areas:

1. Research methods
2. Planning and/or policy analysis
3. Public administration
4. Ethics

Competence can be demonstrated by completion of the following:

#### Research methods

GVPA/PADM/URSP/CRJS 623 Research Methods for Government and Public Affairs

#### Planning/policy analysis

GVPA/URSP 632 Planning Theory and Processes

or

GVPA/PADM 625 Public Policy Analysis

#### Public administration

GVPA/PADM 601 Principles of Public Administration

#### Ethics

GVPA/PADM 683 Administrative Ethics

or

A program specific course through which ethical issues are imbedded and discussed within a public sector context. Such courses would include: CRJS 550, PADM 661, PADM 689, URSP 632 and URSP 635.

Selection of courses to meet these competency requirements will be made by the student in consultation with his/her academic adviser. While each graduate of the Wilder School must demonstrate competence in each of the areas outlined above, substitutions for the specific courses may be made with the written approval of the appropriate graduate program coordinator.

### Wilder School courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The L. Douglas Wilder School of Government and Public Affairs offers courses in the following areas:

Use this link to see criminal justice (CRJS) courses.

Use this link to see government and public affairs (GVPA) courses.

Use this link to see homeland security and emergency preparedness (HSEP) courses.

Use this link to see political science (POLI) courses.

Use this link to see public administration (PADM) courses.

Use this link to see public policy and administration (PPAD) courses.

Use this link to see sociology (SOCY) courses.

Use this link to see urban studies and planning (URSP) courses.

## Applied Social Research, Certificate in (Post-baccalaureate graduate certificate)

### Admission requirements summary

Applied Social Research, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Jul 1	

The certificate program is designed (1) to enable practitioners to acquire additional knowledge and skills in applied social research without necessarily pursuing a graduate degree and (2) provide marketable job/career skills for graduate degree-seeking students in sociology as well as other graduate programs. Because the certificate program involves a limited number of credit hours and coordinates with the type of statistics and methods courses offered in a number of graduate degree programs, it may be pursued simultaneously with such programs as sociology, social work, public administration, social policy and urban services. At the same time, individuals seeking more limited, specialized training may pursue the certificate independently.

### Student learning outcomes

- To enable practitioners to acquire additional knowledge and skills in applied social research.
- To provide marketable job/career skills for graduate degree-seeking students in sociology as well as other graduate programs.

## Admission and matriculation requirements

Students possessing a B.A. or B.S. degree and beginning level skills in statistics/research methods are eligible for admission into the certificate program. Relevant course or research experience will be considered in evaluating admission and substitution of courses. Equivalency tests are available for required courses in statistics and methods. No more than six hours of substitution or equivalency credit will be granted. An overall GPA of 3.0 is required for award of the certificate, and no more than one grade of C may be earned in the certificate program curriculum.

## Curriculum

A total of 18 hours is required to earn the applied social research certificate. Four courses (12 credits) in statistics and research methods are required. In addition, one internship course (three credits), which offers the opportunity for involvement in all phases of ongoing research projects, is required. One course (three credits) may be elected to develop more specialized types of research skills.

### Required courses

SOCY/STAT 608 Advanced Statistical Methods (Prerequisite: SOCY/STAT 508 or permission of instructor)  
 SOCY 623 Research Methods (Prerequisites: SOCY 320 and SOCY/STAT 508 or equivalent)  
 SOCY 626 Applications of Advanced Research Methods (Prerequisites: SOCY 601 and SOCY/STAT 608)  
 SOCY 603 Seminar in Population Studies or SOCY 656 Social Network Analysis  
 GVPA 693 Internship

Credits  
15

### Elective courses

SOCY 603 Seminar in Population Studies  
 SOCY 656 Social Network Analysis  
 \*PADM/GVPA 625 Public Policy Analysis  
 \*PSYC 631 Evaluation Research: Psychological Perspectives  
 \*URSP 621 Introduction to Geographic Information Systems  
 \*URSP 622 Community Socioeconomic Analysis Using GIS  
 \*Courses offered in other programs may require permission of instructor.

3

Note: Students may not be able to enroll full time or complete the certificate in one year given the limits on course scheduling.

## Criminal Justice, Certificate in (Post-baccalaureate graduate certificate)

### Admission requirements summary

Criminal Justice, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring	Apr 1 Oct 1	None

The Post-baccalaureate Certificate in Criminal Justice program offers an abbreviated graduate-level course sequence of 15 credit hours for individuals with an academic and/or professional background in criminal justice.

This certificate program offers specialization for individuals interested or involved in law enforcement, corrections, juvenile justice or the courts. It combines survey and theory courses with research, management and policy courses on the justice system. The courses in the Postbaccalaureate Certificate in Criminal Justice program are the same as the master's courses and, with grades of B or better and upon acceptance into the master's degree program, are fully transferable to the Master of Science program.

### Student learning outcomes

- Students will identify concepts and issues that are relevant and/or appropriate for the research or content area.
- Students will demonstrate logical connections in concepts, facts and information identified in the literature.
- Students will be able to solve a problem, write a research paper, or make a line of argument on a particular criminal justice topic.
- Students will be able to exemplify the trivium of learning.

## Curriculum

Five courses are required for the certificate, as specified in the chart that follows. To receive the certificate the student must achieve a B average in the five courses with no more than one C grade and complete the 15-hour certificate program within three years.

	credits
CRJS 501 Principles of Criminal Justice	3
CRJS/GVPA 623 Research Methods for Government and Public Affairs	3
Select three from the following courses:	9
CRJS 550 Professional Ethics and Liability	
CRJS 616 Justice Policies and Administration	
CRJS 620/SOCY 620 Seminar in Criminology	
CRJS 641 Jurisprudence	
Graduate elective	
	15

## Criminal Justice, Master of Science (M.S.)

### Admission requirements summary

Criminal Justice, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Apr 1* (Mar 1 for financial aid)	GRE, LSAT or GMAT
	Spring	Oct 1*	

\*These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, we cannot guarantee sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester. Please contact the program chair with specific application questions.

The graduate program in criminal justice is designed to provide advanced educational preparation for students and criminal justice professionals pursuing careers in the field of criminal justice. Such preparation includes understanding the range of theory, research and policy in criminal justice. The curriculum is directed especially toward assisting students in developing the advanced knowledge, skills and abilities required by criminal justice professionals.

The Master of Science in Criminal Justice requires 36 semester hours of course work, with an overall grade-point average of 3.0 or above. Students who do not have at least one year of professional-level experience are encouraged to take a three-credit internship as part of their 36 semester hours.

A maximum of nine semester hours of graduate credit from an accredited institution may be applied toward the master's degree with the approval of the graduate program coordinator. However, these hours will not have been credited toward another degree.

#### Student learning outcomes

- Students will identify concepts and issues that are relevant and/or appropriate for the research or content area.
- Students will demonstrate logical connections in concepts, facts and information identified in the literature.
- Students will be able to solve a problem, write a research paper, or make a line of argument on a particular criminal justice topic.
- Students will be able to exemplify the trivium of learning.

#### Curriculum

Core requirements (18 credits)

CRJS 501 Principles of Criminal Justice  
CRJS 550 Professional Ethics and Liability  
CRJS 616 Justice Policy and Administration  
CRJS 620 Seminar in Criminology  
CRJS/GVPA 623 Research Methods for Government and Public Affairs  
CRJS 641 Jurisprudence

Six elective courses (18 credits), to be selected from:

CRJS 591 Topic Seminar  
CRJS 612 Criminal Justice Politics and Planning  
CRJS 622 Comparative Criminal Justice Systems  
CRJS 631 Criminal Justice Management and Leadership  
CRJS/FRSC 680 Forensic Psychiatry  
CRJS 693 Internship (see Wilder School web page for listing)  
FRSC 670 Forensic Evidence and Criminal Procedure  
HSEP 501 Institutional Challenges of Security Preparedness  
HSEP 502 Survey of Terrorism  
HSEP 603 Risk Assessment  
PADM/GVPA 601 Principles of Public Administration  
PADM/GVPA 625 Public Policy Analysis  
SOCY 510 Domestic and Sexual Violence in Social Context  
SOCY 631 Battered Women in the Criminal Justice System  
SOCY 656 Social Network Analysis

Other course(s) may be selected with permission of the criminal justice graduate director.

To complete the M.S. curriculum, students must submit a portfolio of their work before they graduate. Contact the program director for format and submission details.

#### Admission requirements

Beyond the general Graduate School standards listed in [Graduate Studies at VCU](#) section of this bulletin, admission to the Master of Science in Criminal Justice also will be based on:

- An undergraduate GPA that exceeds 2.7 overall.
- A satisfactory score on the GRE. Call (800) GRE-CALL for exam information.
- Previous evidence of ability to perform graduate-level work (where applicable).

Professional experience in criminal justice (where applicable).

### Gender Violence Intervention, Certificate in (Post-baccalaureate graduate certificate)

The post-baccalaureate Certificate in Gender Violence Intervention is designed to prepare individuals for positions related to understanding, studying, responding to and preventing sexual and domestic violence in a variety of communities and settings. It provides specialized study in gender violence and can be earned on its own or in conjunction with another graduate degree in the Wilder School or the School of Social Work.

#### Student learning outcomes

- Students will gain knowledge about social causes, consequences and responses to gender violence.
- Students will develop skills applying knowledge to research, policy and prevention practices.

#### Admission and matriculation requirements

Students possessing a B.A. or B.S. degree are eligible for admission into the certificate program. Relevant course or practical experience will be considered in evaluating admission and substitution of courses. No more than six hours of substitution or equivalency credit will be granted. An overall GPA of 3.0 is required for award of the certificate, and no more than one grade of C may be earned in the certificate program curriculum.

#### Curriculum

A total of 18 hours is required to earn the certificate in gender violence intervention. Four courses (12 credits) are required. In addition, an internship course (three credits), which offers the opportunity for involvement in all phases of work in this field is required. For the remaining three credits, students may choose one of several elective options.

Required courses	Credits
GVPA 693 Internship	3
PADM 650 Principles of Nonprofit Management	3
SLWK 761 Interpersonal Violence	3
SOCY 623 Research Methods	3
SOCY 635 Theorizing Gender Violence	3
<b>Elective</b>	<b>3</b>
SOCY 631 Battered Women in the Criminal Justice System	
SOCY 633 Application of the Policy Process to Issues of Violence	
SOCY 660 Seminar in the Sociology of Women	
Any graduate-level SOCY seminar course	

### Geographic Information Systems, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Geographic Information Systems, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring	Apr 1 Oct 1	

The Post-baccalaureate Graduate Certificate in Geographic Information Systems emphasizes the core functions and applications of GIS. It provides specialized training in the operations and techniques related to the creation, analysis, modeling, visualization, interpretation and management of geographic information.

#### Student learning outcomes

The curriculum for the GIS certificate program is designed to help students accomplish the following:

- Understand the principles and methodologies of GIS with emphasis on applications.
- Develop technical competence in creating, implementing and managing GIS databases.
- Apply spatial statistics and geo-visualization techniques and principles, and understand how they are best used and interpreted.
- Apply conceptual and technical knowledge to real-world research problems by selecting courses related to each student's area of interest.
- Describe the appropriate role of professional and ethical standards in GIS.

## Admission requirements

Admission requirements include an official application; three letters of reference; a letter of intent describing objectives in applying for the certificate; an official transcript showing successful completion of baccalaureate degree or its equivalent from an accredited college or university with a minimum GPA of 2.7 (out of 4.0) in the last 60 hours of undergraduate study.

## Curriculum

This GIS certificate program can be completed in one academic year. To receive the GIS Certificate, students must complete 12 graduate credits of GIS course work that includes two required and two elective courses with a grade-point average of 3.0 or higher (out of 4.0). The following schedule is suggested as a means of completing the certificate program:

Fall semester (6 credits)

URSP 621 Introduction to Geographic Information Systems (required)

Plus one elective from the cluster below

Spring semester (6 credits)

URSP 625 Spatial Database Management and GIS Modeling (required)

Plus one elective from the cluster below

Electives cluster:

URSP 622 Community Socioeconomic Analysis Using GIS

URSP 627 GIS Applications in Urban Design

Other GIS-related courses approved by the certificate program coordinator.

All credits earned in the GIS certificate program are transferable to the Master of Science in Criminal Justice program, the Master of Public Administration program, or the Master of Urban and Regional Planning program. Also, students may use courses from the GIS certificate to simultaneously satisfy requirements in any graduate degree at the university with the respective department's approval, including the Master of Science in Criminal Justice, the Master of Public Administration, or the Master of Urban and Regional Planning programs. However, students must apply to the certificate and graduate degree programs separately.

### Historic Preservation Planning, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Historic Preservation Planning, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate			

Admission to this program is currently suspended.

The certificate in historic preservation planning provides specialized training in the techniques and processes of historic preservation and planning. This graduate-level program includes courses in historic preservation, architectural history, preservation analysis and methods, building reuse, and the role of the public and private sectors in implementing proposals. The program is useful for mid-career professionals in planning, historic preservation, architecture and those in allied fields who wish to learn new skills to expand their career options. It also is useful for recent college graduates who want advanced training in the application of historic preservation in urban development.

#### Student learning outcomes

- Students will demonstrate mastery of the techniques and processes of historic preservation and planning.

## Admission requirements

Students must meet the following admission requirements:

- completion of an official application form,
- letter of intent describing interest in applying to the certificate in historic preservation planning,
- an official transcript showing successful completion of an appropriate undergraduate degree,
- three letters of recommendation and
- a minimum grade-point average of 3.0 (out of 4.0) in the last 60 hours of undergraduate study.

## Curriculum

The certificate consists of nine credits in architectural history and nine credits in urban planning.

**Urban planning:** After discussing the program with an adviser, students should choose three of the following courses:

URSP 517 Historic Preservation in Planning

URSP 610 Introduction to Planning

URSP 611 Principles of Urban Design

URSP 635 Legal and Legislative Foundations of Planning

URSP 647 Adaptive Reuse of Buildings

**Architectural history:** After discussing the program with an adviser, students should choose three courses from among the offerings in architectural history at the 500 or 700 level. Examples of courses are:

ARTH 502 Historic Preservation and Architectural History

ARTH 789 Palladianism and its Alternatives

ARTH 789 The World of Jefferson and Letrobre

ARTH 789 From Neoclassicism to World War I

ARTH 789 The Arts and Crafts Movement

### Homeland Security and Emergency Preparedness, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Homeland Security and Emergency Preparedness, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	All semesters	None – rolling admissions	None

The Post-baccalaureate Graduate Certificate in Homeland Security and Emergency Preparedness was developed for current and prospective homeland security and emergency preparedness practitioners to develop managerial competencies supporting these evolving professions. The graduate certificate program requires 15 credit hours, comprised of five three-credit courses delivered through a combination of online technology, and one on-campus session (three days) as described below. The courses offered in the certificate program are the same as those taken by students in the master's program and, with grades of "B" or better and upon acceptance into the master's program, are fully transferable to the Master of Arts in Homeland Security and Emergency Preparedness program.



## Student learning outcomes

- Students will achieve comprehension of the theory and practice of homeland security and emergency preparedness and be able to analyze policy and synthesize information.

## Online study

Web-based course delivery in an asynchronous format is designed around each course's own Blackboard site.

## On-campus study

During the final week of the semester, the class will have a three-day in-class session from Thursday to Saturday. It will feature presentations and discussion of student projects/papers, as well as lectures, seminar sessions and exercises. (Exceptions will be made for students who are unable to attend these sessions, such as active-duty military personnel or emergency managers involved in ongoing operations).

## Curriculum

HSEP 501 Institutional Challenges of Security Preparedness

HSEP 502 Survey of Terrorism

HSEP 601 Emergency Management: Response Planning and Incident Command

HSEP 602 Government, Private Industry and Community Strategic Planning

HSEP 603 Risk Assessment

All courses are required for the program.

## Homeland Security and Emergency Preparedness, Master of Arts (M.A.)

### Admission requirements summary

Homeland Security and Emergency Preparedness, Master of Arts (M.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall	Apr 1* (Mar 1 for financial aid)	GRE, GMAT, MAT or LSAT
	Spring	Oct 1*	

\*These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, we cannot guarantee sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester. Please contact the program chair with specific application questions.

The Master of Arts in Homeland Security and Emergency Preparedness offered by Virginia Commonwealth University provides for the scholarly and professional needs of several groups who have accepted the challenges of this new environment of homeland security and emergency preparedness: 1) professionals who already work in the public sector at the federal, state and local level in emergency management and security; 2) the public health and private sector workforce that focuses on security and emergency preparedness issues; and 3) students who wish to research these issues in hopes of developing and refining the scholarly study of homeland security and emergency preparedness. The master's degree is primarily an off-campus, online, distance-learning program. It has both off-campus (online) and on-campus (at VCU) components.

VCU's program takes a broad interdisciplinary approach to preparedness that will give students the ability to see the larger organizational, social, political, ethical and economic aspects of disaster studies, in addition to the policy-making and implementation aspects. The scholarly study of homeland security and emergency preparedness rests at the intersection of national defense, emergency management, law enforcement and policy management. With expertise in criminal justice, geography, government (local, state, federal and foreign), international affairs, policy planning and public administration, the L. Douglas Wilder School of Government and Public Affairs at VCU is particularly well-suited for such a program. Its location — in the state capital and situated just 90 minutes from the nation's capital — also provides easy access to homeland security institutions and practitioners.

The nature of terrorist, natural and technological disaster threats is such that the business community, the public health system, and the scientific community are

key components in the theoretical study, policy design, and policy analysis aspects of security and preparedness. The program is designed to approach the study of homeland security and emergency preparedness from multiple perspectives and takes full advantages of the resources in VCU's schools of Business and Engineering plus the VCU Medical Center.

## Student learning outcomes

- Students will achieve comprehension of the theory and practice of homeland security and emergency preparedness and be able to analyze policy and synthesize information in four key areas: risk and vulnerability analysis, strategic planning dilemmas of disasters and disaster preparedness, institutional coordination and intelligence operations, and legal/constitutional aspects.
- Students will develop advanced skills in expository writing and oral presentation.
- Students will achieve comprehension of the theoretical and practical principles of emergency preparedness for both natural disasters and terrorist incidents and be able to analyze key topics related to natural disasters, emergency planning, terrorism and counterterrorism.
- Students will perform research, policy analysis and risk assessment using several methodological and theoretical approaches to homeland security and emergency preparedness.
- Students will also be able to evaluate scholarly and practitioner analyses of homeland security and emergency preparedness.

## Curriculum (36 credits)

All courses are required

HSEP 501 Institutional Challenges of Security Preparedness

HSEP 502 Survey of Terrorism

HSEP 601 Emergency Management: Response Planning and Incident Command  
PADM 623/GVPA 623/CRJS 623/URSP 623 Research Methods for Government and Public Affairs

HSEP 602 Government, Private Industry and Community Strategic Planning

HSEP 603 Risk Assessment

HSEP 610 Law Enforcement Policy and Judicial Precedent

HSEP 620 Private Sector Issues in Security and Preparedness

ENGR 630 Technology, Security, and Preparedness

INFO 644 Principles of Information System Security

HSEP 650 Public Health System Preparedness

HSEP 690 Capstone Seminar

## Admission requirements

In addition to the general requirements of the university, selection is made on the basis of prior academic performance, professional accomplishments and other indicators of the ability to pursue graduate studies and a professional career in a field related to homeland security and emergency preparedness. The application for admission requires:

- A transcript documenting the completion of a bachelor's degree.
- Three letters of reference (including both academic and professional references if possible).
- A current resume.
- Satisfactory standardized test score (GRE, GMAT, MAT, LSAT).
- A minimum of a 2.7 GPA (on a 4.0 scale) in their last 60 semester hours of undergraduate work.

Students not meeting these requirements who have demonstrated advanced competency on a professional basis may be admitted to the program provisionally. The provisional period shall consist of the first nine hours of designated graduate work in which all grades must be no less than "B." Provisional admission does not constitute a waiver of the requirement related to a standardized test.

## Program structure

### Off-campus study

Web-based course delivery is designed around each course's own web-based site utilizing the Blackboard education system, which provides the following:

- Course syllabus.

- Course reference materials and links to supporting Web sites.
- Course lectures.
- Faculty-student and student-student communications via weekly discussion topics.
- Student writing assignments.

Participation in online discussions is mandatory and will count for a significant percentage of each student's grades. Written work is submitted, evaluated and returned to students via the Blackboard education system assignment function.

#### On-campus study

During the final week of the semester, each class will have a three-day in-class session from Thursday to Saturday. It features presentations and discussion of student projects/papers, as well as lectures, seminar sessions and exercises. These sessions will include the formation of working groups of students from a number of classes in the program. (Exceptions will be made for students who are unable to attend these sessions, such as active-duty military personnel or emergency managers involved in ongoing operations with provisions for maximum possible inclusion via electronic means and/or the substitution of additional student assignments equivalent to the on-campus study requirements).

### Nonprofit Management, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Nonprofit Management, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	All semesters	No deadlines	No test requirements

The graduate certificate in nonprofit management is a postbaccalaureate program designed to enable practitioners principally in the nonprofit sector to acquire knowledge and skills in managing nonprofit organizations without pursuing a full master's degree.

#### Student learning outcomes

- To understand the nonprofit sector's relationship to for-profit and government
- To know how to build a fundraising and donor communication plan model
- To understand how to budget and evaluate the financial management practices of nonprofit organizations
- To have the skills to analyze and implement laws impacting nonprofit organizations and their governance

### Admission requirements

Admission to the certificate program requires the same procedure used in applying to the M.P.A., except that a standardized examination is not required.

### Curriculum

The certificate requires a total of 15 graduate credit hours that is comprised of four courses in the graduate public administration program and one elective that may be public administration, or from elsewhere within the school or university. The following courses are required:

PADM 650 Principles of Nonprofit Management  
 PADM 656 Fund Development for Nonprofit Organizations  
 PADM 659 Financial Management for Nonprofit Organizations  
 PADM 661 Nonprofit Law, Governance and Ethics

### Combined Master of Social Work (M.S.W.) and Certificate in Nonprofit Management (Post-baccalaureate graduate certificate)

See the individual program pages for admission requirements specific to the separate degrees.

Students seeking a Master of Social Work may pursue a Certificate in Nonprofit Management through Virginia Commonwealth University's L. Douglas Wilder School of Government and Public Affairs.

Through a cooperative arrangement with the L. Douglas Wilder School of Government and Public Affairs, M.S.W. students pursuing the Social Work Administration, Planning and Policy Practice (SWAPPP) concentration may simultaneously earn the graduate certificate in nonprofit management offered by the L. Douglas Wilder School of Government and Public Affairs.

### Certificate requirements for M.S.W. students

Social work SWAPPP concentration students are required to complete three nonprofit courses: PADM 656 Fund Development for the Nonprofit Sector (fall course); PADM 659 Financial Management for Nonprofit Organizations (spring course); and PADM 661 Nonprofit Law, Governance and Ethics (summer course) in the L. Douglas Wilder School of Government and Public Affairs.

Two social work SWAPPP courses are substituted for six credit hours of the certificate's 15 credit hour requirement. One of these courses is SLWK 712 Social Work Planning and Administrative Practice I. The second course can be SLWK 711 Strategies for Social Work Planning and Administrative Practice or SLWK 713 Social Work Planning and Administrative Practice II.

M.S.W. clinical concentration students must complete 15 course credits in nonprofit management. Six of the PADM nonprofit credits will satisfy the M.S.W. elective requirement for either concentration.

### Application process

To earn the Certificate in Nonprofit Management simultaneously with the M.S.W., it is necessary to complete a graduate school application for the certificate program; however, no supporting documents are required for students who are already enrolled in good standing in the social work master's degree program.

Additional information may be obtained from the School of Social Work Web site at: [www.vcu.edu/slwweb](http://www.vcu.edu/slwweb) or by writing:

**School of Social Work**  
 Virginia Commonwealth University  
 1001 West Franklin Street  
 Richmond, Virginia 23284-2027  
 Attention: Certificate in Nonprofit Management Adviser

Detailed information about the Certificate in Nonprofit Management can be obtained from Nancy Stutts, assistant professor and interim chair of the Master of Public Administration program, (804) 828-2164 or email: [nbstutts@vcu.edu](mailto:nbstutts@vcu.edu).

### Public Administration, Master of (M.P.A.)

#### Admission requirements summary

Public Administration, Master of (M.P.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.P.A.	Fall	Apr 1* (Mar 1 for financial aid)	GRE, GMAT or LSAT
	Spring	Oct 1*	
Special requirements: Applicants who submit LSAT scores must have received a grade of C or better in an undergraduate math course.			

\*These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, we cannot guarantee sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester. Please contact the program chair with specific application questions.

The Master of Public Administration program is designed to meet the graduate educational needs of pre-service and in-service professionals for careers in public management and analysis in the public and nonprofit sectors. The program is accredited by the National Association of Schools of Public Affairs and Administration.

#### Student learning outcomes

- Students will participate in and contribute to the policy process.

- Students will lead and manage in public governance.
- Students will solve problems and make decisions in public governance.
- Students will communicate and interact with the workforce and citizenry.
- Students will articulate and apply a public service perspective.

## Admission requirements

In addition to the general requirements, selection is made on the basis of prior academic performance, professional accomplishments and other indicators of the ability to pursue graduate studies and a professional career in public management successfully. Specifically, the application for admission requires a transcript documenting the completion of a bachelor's degree, three letters of reference (including both academic and professional references if possible), a current resume and a satisfactory standardized test score (GRE, GMAT, LSAT). Students submitting LSAT scores must have taken an undergraduate math course (algebra, statistics, finite mathematics) and passed with a "C" or better.

No applicant will be considered for admission to the M.P.A. program within two years of having been terminated from the program or of having been rejected for admission to the program.

## Degree requirements

- A student must complete a minimum of 36 semester hours, as approved, with an overall GPA of 3.0 or above. Students who do not have at least one year of professional-level experience in the public sector or in a nonprofit agency are required to earn three additional hours of credit in a public service practicum (for a total of 39 semester hours of credit for the degree). Students may have no more than two "C" grades to graduate. Students who earn a "D" or "F" in a course will be terminated from the program.
- All students who are required to take the practicum will usually do so during the summer between the first and second years or during the last semester of course work. The practicum should last a minimum of 300 hours as required by the National Association of Schools of Public Affairs and Administration. The scheduling of the practicum will be flexible enough to accommodate the needs of those students who pursue the degree on a part-time basis.

Each practicum will be negotiated between VCU and the host agency, including the scope of work to be performed by the student, the type and extent of supervision both within the agency and from the university, and the stipend. A learning contract will be executed among the department, the agency and the student. A written student project is required to complete the internship.

- All students are required to complete the courses in the core curriculum unless competence in the subject matter can be demonstrated on the basis of previous experience or course work.

## Advising

The program coordinator is also the student adviser. All new students are required to contact the coordinator for advice in developing their curriculum plan. Current students are strongly encouraged to consult with the program coordinator prior to registering for courses.

## Core curriculum

	credits
<b>Required courses</b>	
PADM 601 Principles of Public Administration	3
PADM 602 Public Administration Theory	3
PADM 607 Public Human Resource Management	3
PADM 609 Financial Management in Government	3
PADM 623 Research Methods for Public Administration	3
PADM 624 Quantitative Methods for Public Administration	3
PADM 625 Public Policy Analysis	3
PADM 689 Seminar in Public Administration or PADM 690 Reading Seminar	3

	24
<b>Electives</b>	12
	36
<b>Practicum</b> (if required)	3
	39

## Concentration possibilities

Students may develop a concentration in one of several areas from among the elective courses offered by the department or in combination with courses elsewhere in the university. Possibilities include the following concentrations:

- environmental policy
- human resource management
- public financial management
- executive leadership
- public policy analysis and evaluation
- local government management
- nonprofit management

Other concentrations may be developed including concentrations in other fields. These concentrations may require agreement with other degree programs such as criminal justice, economics, gerontology, social work, urban and regional planning, business, and health administration.

## Accelerated Bachelor of Arts (B.A.) in Political Science and Master of Public Administration (M.P.A.)

This program permits selected students to earn the B.A. and M.P.A. in a minimum of five years, by taking certain master's-level courses during the senior year of their undergraduate program. The program is restricted to students with strong credentials and a clear interest in a career in the public or nonprofit sector. To be eligible, a student must have completed 90 credits of course work and have an overall GPA of 3.0, with a GPA of 3.3 in political science courses. The accelerated program is limited to students majoring in political science who have a minimum of nine credit hours in political science courses.

To be considered for acceptance into the program and before enrolling in 600-level Master of Public Administration courses, a student must complete the graduate school application, submit standardized test scores and supply the supporting information required for admission. Upon being accepted into the accelerated program, a student must meet the same standards of performance as a graduate student that are described in detail in the "Satisfactory Progress" section of the Graduate Bulletin, must maintain a 3.0 GPA and must satisfactorily complete all of the requirements for the degree, as stated in this bulletin. Guidance to students admitted to the accelerated program is given by the public administration program director. Students should contact the M.P.A. graduate director for more information about admission procedures.

To graduate with a bachelor's degree, a student must complete 120 hours of course work. Of these credits, 33 must be in political science. Of the 33 political science credits, 15 are required (POLI 103 U.S. Government, POLI/INTL 105 International Relations, POLI 107 Political Theory, POLI 109 Comparative Politics and POLI 490 Senior Seminar). Students enrolled in the accelerated program may take up to six credits of graduate public administration courses in each of the final two semesters of their undergraduate course work. These courses are shared credits with the graduate program, meaning that they will be applied toward the undergraduate degree requirement and the graduate degree requirement. A maximum of 12 credits may be taken prior to the completion of the baccalaureate degree. The Bachelor of Arts degree will be awarded when the

student has completed all the requirements for the undergraduate degree, which may include the 12 graduate public administration credits.

The graduate courses that may be taken in the public administration program once a student is admitted to the accelerated program are as follows:

- PADM/GVPA 601 Principles of Public Administration (may be used to meet the undergraduate major distribution requirement for U.S. politics and is a required course in the graduate program)
- PADM 602 Public Administration Theory (may be used to meet the undergraduate major distribution requirement for political theory and methodology, and is a required course in the graduate program)
- PADM 607 Public Human Resource Management (core requirement for the M.P.A.; elective for the undergraduate major)
- PADM 609 Financial Management in Government (core requirement for the M.P.A.; elective for the undergraduate major)
- PADM/GVPA/CRJS/URSP 623 Research Methods for Public Administration (may be used to meet the undergraduate major distribution requirement for political theory and methodology, and is a required course in the graduate program)
- PADM 624 Quantitative Methods for Public Administration (core requirement for the public administration degree; elective for the undergraduate major) or a PADM elective course (elective requirement for the M.P.A. and elective for the undergraduate major)
- PADM 650 Principles of Nonprofit Management (required for the concentration in nonprofit management and is an elective for the M.P.A. degree, and may fulfill an elective requirement in the undergraduate major)

All accelerated program students must have their course schedules approved by the graduate public administration program director prior to registration.

### Combined Master of Public Administration (M.P.A.) and Juris Doctor (J.D.)

The dual degree program is designed to provide its graduates with two degrees — Master of Public Administration and Juris Doctor — attesting to competency in both public administration and law. This competency is applicable to areas of practice drawing upon knowledge and skills from each of these fields. The program brings together persons interested in both the broader aspects of public policy and government affairs, and the law. It also brings together two fields that require complementary knowledge and skills, which may be directed toward solving problems that are associated with the affairs of the government and nonprofit sectors. This integration of education in public administration and law draws on the contributions that each discipline can make to a professional knowledge base for practice in both fields.

Students who are accepted into the dual degree program are permitted to apply 12 credit hours of work in the M.P.A. toward meeting the graduation requirements in the T.C. Williams School of Law, and up to 12 credit hours of work in the T.C. Williams School of Law toward meeting the graduation requirements for the M.P.A. This credit application enables participants in the dual degree program to complete the requirements for the J.D. and the M.P.A. in an estimated four years of full-time course work. Applicants for this program are required to meet admission standards of both the T.C. Williams Law School of the University of Richmond and the Graduate School and the M.P.A. program of VCU.

### Public Management, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Public Management, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	All semesters		

The graduate certificate in public management is a program designed to enable practitioners in government and nonprofit organizations to acquire knowledge and skills in public administration without pursuing a full master's degree. Further details are available from the program office.

The graduate certificate in public management is offered in at least two locations off campus: Chesterfield County and Henrico County.

#### Student learning outcomes

- Students will participate in and contribute to the policy process.
- Students will lead and manage in public governance.
- Students will articulate and apply a public service perspective.

### Admission requirements

Admission to the certificate program requires the same application materials as the M.P.A. except a standardized examination is not required.

### Curriculum

The certificate requires a total of 18 hours of graduate credits involving a mix of required and elective courses. The courses are the same as those offered to M.P.A. students.

### Public Safety, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Public Safety, Certificate in (Post-baccalaureate graduate certificate)
Admissions suspended

The Post-baccalaureate Certificate in Public Safety offers specialization for individuals currently employed in public safety. It combines research, legal and policy courses with management, leadership and human resource development courses. The certificate requires 15 credits, as outlined below.

#### Student learning outcomes

- Students will gain knowledge about public safety issues, criminal justice management and legal processes.
- Students will develop skills applying knowledge to research, policy and prevention practices.

### Curriculum

CRJS 591 Topic Seminar (Topic: Public Safety Issues in Your Community After 9/11: Terrorism, Homeland Security and Future Trends)  
 CRJS 616 Justice Policy and Administration  
 CRJS/GVPA 623 Research Methods for Government and Public Affairs  
 CRJS 631 Criminal Justice Management and Leadership  
 CRJS 660 Seminar in Legal Process

### Sociology, Master of Science (M.S.)

#### Admission requirements summary

Sociology, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Apr 1* (Mar 1 for financial aid)	GRE
	Spring	Oct 1*	

\*These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, we cannot guarantee sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester. Please contact the program chair with specific application questions.

The Sociology Program offers programs leading to the Master of Science in Sociology and the Post-baccalaureate Certificate in Applied Social Research. The goal of the graduate program in sociology is to facilitate the development of theoretical, methodological and substantive competence appropriate for students' interests and career goals. In keeping with VCU's role as an urban institution, the program focuses on the study of urban social problems, policy alternatives and strategies for change.

#### Student learning outcomes

- Students will demonstrate an understanding of the key concepts developed by classical and modern sociological theorists.



- Students will demonstrate an ability to apply a detailed comprehension of diversity and of inequality to the analysis of social issues.
- Students will demonstrate advanced knowledge of sociological concepts, such as culture, roles, norms, social structure, social institution, socialization and stratification.
- Students will demonstrate knowledge of methodological approaches and data analysis techniques in sociology.
- Students will demonstrate the ability to use sociological theory in the critical analysis of sociological issues and research questions.
- Students will demonstrate the ability to present clear, organized and coherent arguments in the analysis of sociological issues.
- Students will demonstrate the ability to use methodological skills in the critical evaluation of existing sociological research and the discussion of alternative research methods.

## Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and in the College of Humanities and Sciences, the following requirements represent the minimum acceptable standards for admission:

- Applicants must submit a transcript of their undergraduate course work and the results of their GRE in general aptitude (quantitative, analytical and verbal).
- Admission priority is given to students with an undergraduate GPA of 3.0 or higher on a 4.0 scale. Students with GPA below 3.0 will be evaluated by the director of graduate studies and members of the graduate faculty on the basis of the GRE scores, recommendations from references and other data submitted by applicants.
- To be admitted as a regular graduate student, applicants should have completed 24 semester hours in the social sciences (including history), with at least 12 credits in sociology. Undergraduate work in sociology should include a survey of sociological theory, research methods and statistics. Students who otherwise are qualified for admission but lack this background may be admitted provisionally, with the stipulation that they may be requested to make up any deficiencies specified by the director of graduate studies. Nondegree or “special” students must apply for regular student status after completing six sociology graduate credits.

Because of the diversity in different institutions of higher education, students trained abroad may be judged on an individual basis. Criteria on which this judgment is based include the reputation of the foreign university, the student’s academic record, proficiency in English and recommendations from professors. VCU requires that foreign students demonstrate guarantees of financial support.

A limited number of assistantships are available for qualified applicants. Applicants for assistantships should have their files complete by Feb. 15. Individuals not applying for assistantships should file their applications for graduate study as early as possible to permit adequate review and to ensure consideration. Applications that reach VCU after July 1 for the fall semester and after Nov. 15 for the spring semester may not be processed in time for registration.

## Degree requirements

Two options are available for students pursuing a master’s degree in sociology. Students must receive approval from the director of graduate studies before choosing either option.

### Thesis option

Thirty-six hours of graduate course work must be completed including the following core courses: SOCY 502 Contemporary Sociological Theory, SOCY/STAT 608 Statistics for Social Research, SOCY 623 Research Methods and SOCY 626 Applications of Advanced Research Methods. A master’s thesis will be developed under the guidance of the thesis committee (three faculty members including a thesis adviser) and must be defended publicly. The student may present up to six thesis credits for graduation. Up to six credits of independent study may be presented, as well as six credits outside the department.

### Applied sociology option

Thirty-six hours of graduate course work must be completed including the following core courses: SOCY 502 Contemporary Sociological Theory, SOCY/

STAT 508 Introduction to Social Statistics or SOCY/STAT 608 Statistics for Social Research, SOCY 623 Research Methods, SOCY 626 Applications of Advanced Research Methods and six credit hours of GVPA 693 Internship. Up to six credits of independent study may be presented, as well as six credits outside sociology. Students are strongly encouraged to take one to two courses from other graduate programs within the Wilder School.

For all candidates, an overall GPA of at least 3.0 (B) must be maintained in order to receive a degree. A student who does not maintain a 3.0 average may be dropped from the master’s program at any time by the graduate program director. A review of all first-year graduate students will be conducted at the end of their second semester by the graduate program director and three appointed faculty members. The purpose of this review will be to assess all first-year students on their satisfactory/unsatisfactory progress toward the master’s degree.

### Applying for an option

Students are required to apply for either the thesis or applied sociology track. The application is due by May 15, at the end of the second semester in the program. Applications will be submitted to and reviewed by the graduate committee. Decisions will be announced by June 1 in order for students to be prepared to register for the appropriate fall course (SOCY 626 or GVPA 693).

## Accelerated Bachelor of Science (B.S.) and Master of Science (M.S.) in Sociology

The accelerated B.S. and M.S. program allows qualified students, with a major in sociology, to earn both degrees in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. The program will provide students with the opportunity to expand and deepen their knowledge of sociology, enhance their credentials for the job market and/or to prepare for further professional education. Students in the program may count up to 12 hours of graduate courses toward both the B.S. and M.S. degrees. Thus, the two degrees may be earned with a minimum of 144 hours instead of the 156 required if the degrees are pursued separately.

The program is restricted to students who have demonstrated a clear interest in sociology. Minimum qualifications for admittance to the program include completion of 90 undergraduate credit hours with an overall GPA of 3.0, and a minimum of nine credit hours in sociology with a GPA of 3.3. Prior to being formally considered for admittance and before enrolling in graduate courses, the student must complete the graduate school application, submit GRE general aptitude scores and supply supporting information required for admission. All persons admitted to the program must meet the graduate student standards of performance, e.g., maintain a 3.0 GPA, and satisfactorily complete all requirements for the degree.

The director of graduate studies will provide guidance of students in this program. Students who are interested in this program should consult with the director of graduate studies or the director of undergraduate studies before they have completed 90 credits. Both directors may be contacted for more information about admission procedures.

Requirements for the Bachelor of Science in Sociology include the completion of a minimum of 120 credits. Students in the accelerated program may take up to six graduate sociology credits in each of the final two semesters of their undergraduate course work. These courses are shared credits with the graduate program, meaning that they will be applied to both undergraduate and graduate degree requirements. A maximum of 12 graduate credits may be taken prior to completion of the baccalaureate degree.

The Bachelor of Science degree will be awarded when the student has completed all requirements for the undergraduate degree, which may include the 12 graduate sociology credits. The graduate sociology courses that may be taken, once a student is admitted to the program, are:

- SOCY 502 Contemporary Sociological Theory (may be used to meet the undergraduate major requirement for SOCY 402 Sociological Theory and is a required course in the graduate program)
- SOCY/STAT 508 Introduction to Social Statistics (recommended and may fulfill elective requirement in the undergraduate major)
- SOCY/STAT 608 Statistics for Social Research (a required course in the graduate program and may fulfill elective requirement in the undergraduate major)

- SOCY 623 Research Methods – Prerequisite SOCY/POLI 320 (a required course in the graduate program and may fulfill elective requirement in the undergraduate major)
- Other SOCY graduate courses, with the approval of the director of graduate studies, may serve as an elective requirement for the M.S. degree and an elective for the undergraduate major.

All accelerated program students must have their schedules approved by the director of graduate studies prior to registration.

### Transportation Planning and Analytics, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Transportation Planning and Analytics, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Mar 1	None
	Spring	Oct 1	

The Certificate in Transportation Planning and Analytics focuses on urban transportation policy and planning principles, public transportation and other alternative transportation modes, land use/transportation integration, travel demand forecasting methodology, and applications of geographic information systems in transportation (GIS-T), urban transportation finance, budgeting, project delivery and program evaluation.

The program course work can be completed in one academic year. To receive this certificate, students are expected to complete 12 graduate credits of transportation-related course work from the following cluster of three-credit courses, with a grade-point average of 3.0 or higher on a four-point scale.

#### Student learning outcomes

- Students will gain an understanding of the theory and practice of urban transportation policy and planning principles.
- Students will display the skills necessary to work effectively and competently as a planner in a variety of settings.
- Students will demonstrate an understanding of the ethics and values of the professional planner.

#### Curriculum

##### Required core courses

URSP 651 Transportation Policy and Planning

URSP 653 Transportation Projects

##### Elective courses

URSP 625 Spatial Database Management and GIS Modeling

URSP 626 Transportation Analytics and Modeling

URSP 658 Transportation Finance

URSP 659 Transportation Project Development and Evaluation

It is suggested that those students who are interested in transportation planning and project management take URSP 658 and 659. Students who would like to concentrate on transportation modeling and its applications should take URSP 625 and 626.

All credits earned in this program are transferable to the Master of Urban and Regional Planning program.

Admission requirements include an official application, three letters of reference, a letter of intent describing objectives in applying for the certificate and an official transcript showing successful completion of a baccalaureate degree or its equivalent from an accredited college or university with a minimum GPA of 2.7 (out of 4.0) in the last 60 hours of undergraduate study.

### Urban and Regional Planning, Master of (M.U.R.P.)

#### Admission requirements summary

##### Urban and Regional Planning, Master of (M.U.R.P.)

Indicate specialization:

Economic Development, Environmental Planning, Housing and Community Planning, Planning Management, Physical Land Use Planning, or Urban Revitalization

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.U.R.P.	Fall	Apr 1* (Mar 1 for financial aid)	GRE, GMAT or LSAT
	Spring	Oct 1*	

\*These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, we cannot guarantee sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester. Please contact the program chair with specific application questions.

The graduate program in urban and regional planning is accredited by the Planning Accreditation Board and provides professional grounding in the theory and methodologies of planning through a curriculum that balances classroom and field experience.

The M.U.R.P. is a two-year degree program requiring 48 semester hours of class work. Each student must complete an internship with a planning agency or organization, as well as school and programmatic required courses totaling 30 semester hours. Core requirements for students within the Master of Urban and Regional Planning program will be met through the following courses:

- Introduction to Planning
- Community Socioeconomic Analysis using GIS
- Foundations for Development Planning
- Research Methods in Government and Public Affairs
- Planning Theories and Processes
- Legal and Legislative Foundations of Planning
- Principles of Public Administration
- Planning Studio I
- Planning Studio II or Thesis

In selecting their elective courses, students may (1) opt for exposure to a wide array of planning-related subject matter (the generalist or comprehensive approach), (2) select one of the areas of specialization defined by the department's faculty (see the list that follows), or (3) develop an individualized program, focusing on one or more self-defined topics. Regardless of the approach selected, students are expected to meet regularly with their faculty advisers for discussion of their courses of study in relation to their career plans.

The following faculty-defined areas of specialization are offered by the department:

- community revitalization planning
- metropolitan planning
- environmental planning
- international development planning

#### Student learning outcomes

- Students should display evidence of having developed a multidisciplinary understanding of urban life.
- Students will display an understanding of the theory and practice of planning for cities and regions.
- Students will display the skills necessary to work effectively and competently as a planner in a variety of settings.
- Students will demonstrate an understanding of, and a willingness to act in accordance with, the ethics and values of the professional planner and the social and environmental responsibilities of planners.

#### Admission requirements

Beyond the general Graduate School admissions standards, the following specifications apply:

- Students must have a minimum of a 2.7 GPA (on a 4.0 scale) in their last 60 semester hours of undergraduate work. In addition, a GPA of not less than 3.0 must have been maintained in their undergraduate majors. Finally, applicants are expected to receive satisfactory scores on each of the categories in the GRE, LSAT or GMAT examination.
- Students not meeting these requirements may be admitted to the program on a provisional basis. The provisional period shall consist of the first nine to 12 hours of designated graduate work in which all grades must be no less than "B." Provisional admission does not constitute a waiver of the requirement related to a standardized test.
- Generally, at least two of the three letters of reference should come from former faculty.

## Degree requirements

- Students must complete a minimum of 48 graduate credits plus an internship. A core of required courses accounts for 30 of these credits; the remaining 18 are electives. An overall GPA of at least 3.0 (on a 4.0 scale) is required for receipt of the M.U.R.P. degree.
- Students within the M.U.R.P. program are required to complete either a thesis (URSP 764) or to prepare a professional quality plan through the Planning Studio II course (URSP 762). Program administrators request permission to utilize the grade of PR, in addition to normal letter grades ("A," "B," "C," "D," "F") in URSP 762 Planning Studio II. This will allow students the ability to work on their plans over a more extended period of time, if necessary.

### Internship and placement

The internship is designed to give students practical experience in planning-related activities in an institutional context. Normally, the internship is taken during the summer between the first and second year. Many opportunities for internship positions, as well as part- and full-time jobs in planning at all levels of government, exist within the Richmond area. Upon request, the internship requirement may be waived for students with substantial professional experience.

## Curriculum

	Credits
<b>First year, first semester</b>	
URSP 610 Introduction to Planning	3
URSP/GVPA 622 Community Socioeconomic Analysis using GIS	3
URSP 662 Foundations for Development Planning	3
Elective	3
<b>First year, second semester</b>	
URSP/GVPA 623 Research Methods in Government and Public Affairs	3
URSP/GVPA 632 Planning Theory and Processes	3
URSP 635 Legal and Legislative Foundations of Planning	3
Elective	3
<b>Internship</b>	
Normally taken between the first and second year of course work, but other options are available.	
<b>Second year, first semester</b>	
URSP 761 Planning Studio I	3
Electives	9
<b>Second year, second semester</b>	
URSP 762 Planning Studio II	6
Electives	6
	<hr/> 48

## Combined Master of Urban and Regional Planning (M.U.R.P.) and Juris Doctor (J.D.)

A cooperative arrangement with the T.C. Williams School of Law makes it possible for students to receive a law degree (J.D.) and an urban and regional planning degree (M.U.R.P.) in four years rather than the five years ordinarily required.

The purpose of the program is to integrate the two professional curricula and to provide the expertise necessary to apply legal analytical skills and planning methods and analysis to urban and regional policy issues and problems. The dual degree program is designed to equip graduates for a variety of professional positions, including staff for legislative committees and government agencies and commissions, government legal staff, private consulting, neighborhood advocacy, directorships of planning and related agencies, and executive aides to elected officials.

Interested students must apply separately for and be admitted to the T.C. Williams School of Law, University of Richmond, and the Master of Urban Studies and Planning program, VCU. Students will spend their entire first year in either the T.C. Williams School of Law or the L. Douglas Wilder School of Government and Public Affairs, and their second year in the program not selected in the first year. Twelve credit hours of the planning program will be applied toward meeting the graduation requirements of the law school, and 12 credit hours in the law school will be applied toward meeting requirements of the M.U.R.P. program.

Upon admission to the dual degree program, every student will be assigned an adviser in each program who will assist in planning the course of studies that will include all of the required courses in each program plus such elective courses as will best serve the interests of the individual student.

Students deciding not to complete the dual degree program must meet all of the regular requirements of either the J.D. or M.U.R.P. to receive the degree of their choice.

## Urban Revitalization, Certificate in (Post-baccalaureate graduate certificate)

### Admission requirements summary

Urban Revitalization, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring	Apr 1 Oct 1	

The urban revitalization certificate program requires 18 semester hours of course work and can be completed in one academic year. A sequence of introductory courses exposes students to the planning process, housing policy, historic preservation, commercial revitalization, adaptive reuse of buildings and urban design. Course work in the area of urban revitalization is a blend of instruction in planning, urban design, business and economics.

### Student learning outcomes

- Students should display evidence of having developed a multidisciplinary understanding of urban life.
- Students will display an understanding of the theory and practice of planning for cities and regions.
- Students will display the skills necessary to work effectively and competently as a planner in a variety of settings.
- Students will demonstrate an understanding of, and a willingness to act in accordance with, the ethics and values of the professional planner and the social and environmental responsibilities of planners.

## Admission requirements

Admission requirements include an official application; a letter of intent describing objectives in applying for the certificate; three letters of recommendation; two copies of an official transcript from an accredited institution showing undergraduate work and successful completion of an appropriate degree program with a minimum GPA of 2.7 (out of 4.0) in the last 60 semester hours of undergraduate study; demonstration of professional experience in planning or work related to the certificate program. The experience requirement may be waived for candidates who demonstrate professional promise. All credits earned are transferable to the Master of Urban and Regional Planning program.

## Center for Public Policy

The Center for Public Policy focuses the university's multidisciplinary efforts in public policy. As a comprehensive, university-wide center, the center has responsibilities in each area of the university's broader missions: teaching,

research and public service. The center houses and administers the Ph.D in Public Policy and Administration.

The center conducts basic and applied research on a number of public policy matters, with special attention to health policy, urban and metropolitan development, and state and local government and politics. And, the center engages in significant service through its training programs, conferences, publications and other contributions to public discourse.

## Administration

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<http://www.vcu.edu/cppweb>

**Michael D. Pratt**  
Director, Center for Public Policy

## Public Policy and Administration, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Public Policy and Administration, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Mar 15	GRE, GMAT, MAT or LSAT (taken within past five years)
Special requirements: Master's degree, J.D. or M.D. from an accredited university			

The purpose of the Ph.D. in Public Policy and Administration program is to prepare students for scholarly and leadership roles in government, universities, research organizations and other settings where knowledge and research skills in public policy and administration are needed. The doctoral program is committed to accomplishing this mission by creating an intellectually vibrant atmosphere for scholarship involving an active faculty from a broad spectrum of academic disciplines and substantial interaction with government agencies and community groups.

### Student learning outcomes

- Students will complete an original research project that will demonstrate the capacity to utilize appropriate methods in addressing major public policy and administration issues.
- Students will develop mastery in a track area of the appropriate content and methods that will qualify them to perform original research.
- Students will develop mastery of the basic core fields in public policy and administration, including an understanding of the methods essential to producing original research.

## Faculty

Faculty for the doctoral program are drawn from graduate faculty across the university. A list of participating faculty and academic units is available from the program office.

## Admission requirements

Admission is open to qualified persons without regard to age, physical disability, national origin, race, religion or gender. Admission is competitive since it is limited by the number of places available. The admission process is intended to assure a reasonable fit between the student's professional and research interests and faculty expertise. Consequently, otherwise qualified applicants may be denied admission.

Applicants to the program must hold a master's degree or a recognized postbaccalaureate degree in one of the professions such as law or medicine from an accredited institution of higher education. A standardized test score, fewer than five years old, is required. Accepted examinations include the Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT) and the

Law School Admissions Test (LSAT). Professional experience is not required, but is considered desirable.

In order to apply for admission to the Ph.D. in Public Policy and Administration program, prospective students must submit:

- A VCU Application for Graduate Study
- Transcripts from all previous colleges or universities
- Scores from a standardized examination (GRE, GMAT, MAT or LSAT)
- Three letters of reference
- A personal statement describing reasons for applying to the program
- A current professional resume

International applicants must submit the International Application and TOEFL scores. All students admitted to the program must have completed prior to admission, or are required to complete during their first year, the following graduate-level courses (or their equivalent):

- research methods (equivalent of PADM 623),
- statistics (equivalent of PADM 624) and
- public policy, economics or administration/management.

The primary admissions deadline is March 15 for enrollment to begin the following fall semester. However, for those students wishing to be considered for a limited number of fellowships, materials must be received no later than Jan. 15. A small number of special admissions may be made in the fall (Oct. 15 application deadline) for entry the following spring semester. Applicants who wish to be considered for the Oct. 15 deadline must include a letter requesting and justifying early admission. If the request for early consideration is not accepted, the application will be held over to the March 15 application date.

While university rules allow up to six credit hours of course work to be taken as a special student prior to formal admission, taking such courses in no way guarantees admission to the program. Graduate courses designated "doctoral students only" may not be taken prior to formal admission, although they may be taken by fully admitted doctoral students in other programs.

Application packets may be obtained from the program office or the Graduate School. International applicant materials are available from the International Admissions Office.

## Degree requirements

The doctoral program is structured around a core curriculum and several areas of concentration. The curriculum is designed to provide a sound intellectual foundation for the pursuit of theoretical and applied research in administrative and policy studies. The program includes courses in public policy and administration, research methods, public policy economics, political and organizational process, and law and public policy.

In addition to the core, the program offers three concentration areas including health policy, public management in state and local government and nonprofits, and urban policy.

These concentrations offer students the opportunity to build a tailored program of study within a broad area of scholarship. The range of core and affiliate faculty expertise, from both campuses at VCU, gives doctoral students considerable flexibility in designing their studies and research.

Students take a minimum of 36 credits, or 12 courses, in addition to any prerequisites that might be necessary. Seven of these courses are part of the core and five are concentration courses. Required courses generally will be available on an evening or weekend schedule.

Course work in the Ph.D. program has a strong orientation toward research, both applied and theoretical. Where appropriate, course work may be linked to funded university projects or to external agency-based analytical work. Courses emphasize research, writing and presentation skills.

### Core curriculum

PPAD 711 Seminar in Public Policy and Administration I  
PPAD 712 Seminar in Public Policy and Administration II  
PPAD 791 Law and Public Policy  
PPAD 715 U.S. Political Processes and Institutions  
PPAD 716 Public Policy Economics  
PPAD 721 Survey of Applied Research Methods in Public Policy and



Administration  
PPAD 722 Survey of Data Analysis Techniques for Public Policy and Administration

### Concentrations

In addition to the core, all students will take five courses in their selected area of concentration. Each concentration features a required seminar as one of these courses.

- **Health policy:** PPAD 730 Seminar in Health Policy
- **Public management in state and local government:** PPAD 740 Seminar in Public Management
- **Urban policy:** PPAD 750 Seminar in Urban Policy

The remaining four courses will be selected from a list designated by the concentration committee for each area. At least one of these must be a methodologically oriented course relevant to the student's area. The concentration committee will approve the program of study for each student in the concentration.

### Qualifying examinations

After completing all of the core courses in the Ph.D. program, each student takes a comprehensive qualifying examination on the core. The examination is designed to evaluate the mastery students have achieved over the body of knowledge represented by the core. It is intended to measure the ability of students to organize, integrate and creatively apply the knowledge in the field to important problems. Although organized around the courses in the core, the examination is not restricted to material covered in those courses. It is expected that doctoral students will read well beyond the confines of individual courses.

In order to continue in the program, students must attempt the qualifying examination no later than the next regular semester following their completion of the core course requirements, and they must pass the exam by the end of the second regular semester after completing the core course requirements. A student may attempt the examination twice. Examinations are offered twice per year.

A student also must take a comprehensive examination in the concentration. Each student, under the direction of the adviser, will prepare a reading list on the concentration or on a significant portion thereof. The student will then take an oral examination with his or her adviser based upon the reading list. A student may attempt the examination twice. Exams are scheduled at the convenience of the student and the adviser. Each student must pass this second examination before defending a dissertation proposal.

### Dissertation

After completing the qualifying examination and course work for the concentration, students must prepare a dissertation involving original research that contributes to the body of knowledge in the field. A committee approved by the director of the program supervises the dissertation work. The chair of the committee must be a core or affiliate faculty member of the Ph.D. program.

The first formal step in the dissertation process is the development and defense of a dissertation prospectus that frames the problem to be studied, provides background on the problem, presents a review of relevant literature and justifies the methodology to be used. The defense of the prospectus as well as the completed dissertation must be done orally to the dissertation committee. The dissertation defense is conducted in a forum open to other students and to faculty.

### Continuous enrollment requirements and expectations

To remain in good standing, students must maintain continuous registration for each fall and spring semester (except for official leaves of absence) until they have completed all requirements, including the dissertation. Students are required to enroll for a minimum of nine semester hours each calendar year. Once a student has completed all course requirements and passed the comprehensive examinations, he/she may maintain continuous enrollment of three credits of dissertation research per year. A minimum GPA of 3.0 on a 4.0 scale must be maintained. VCU currently requires registration for a defined credit hour level during both the didactic and research phases of advanced degree training. There is no obligatory linkage between the accumulation of credit hours and an expectation that a degree be awarded. As a guide to monitoring the timely completion of the degree within the present enrollment framework, the accumulation of 180 credits for a doctor of philosophy degree can be taken as a reasonable measure. Compliance with other relevant university regulations also is required.

While the university provides an array of computing facilities, most students find it desirable to have personal access to computing capacity, including Internet connection. The primary mode of communication between the program office and students is through the Internet and e-mail. Several classes use computer-based interactive technology such as newsgroups.

## School of Mass Communications

The School of Mass Communications prepares effective and skilled communicators through quality instruction, advising and student services, based on real-world applications. Through research, professional service and scholarship in applied communications, the school advances the knowledge and practice of a multidisciplinary and evolving media environment. The school values truth, ethics, creativity, innovation, collaboration, cultural diversity, shared governance and community engagement.

The school offers a Bachelor of Science in Mass Communications with specialization in one of three sequences: advertising, journalism and public relations. The school also awards the Master of Science in Mass Communications, with concentrations in the areas of advertising, multimedia journalism and strategic public relations. The advertising program is offered through the VCU Brandcenter.

### Administration

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#### Yan Jin

Associate Professor and Interim Director

#### Judy V. Turk

Professor and Associate Director for Special Projects

#### Will Sims

Associate Professor and Assistant Director

#### Jeff South

Associate Professor and Director of Undergraduate Studies

#### June Nicholson

Associate Professor and Director of Graduate Studies

#### Michael E. Hughes

Assistant Director for Development

#### Natasha Long

Coordinator of Advising

### Mass communications courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to mass communications (MASC) courses.

### Graduate information

#### Admission requirements for graduate study

All areas are open to graduates of accredited colleges and universities. Applicants must satisfy the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences (see the [College of Humanities and Sciences](#) guidelines in this bulletin). In addition, they should hold a baccalaureate degree in an area appropriate to the program to which they are applying and a GPA that indicates the ability to pursue graduate work. Although the type of undergraduate degree is not critical to admission, the programs require approved undergraduate curricula or the equivalent in order to grant full admission.

### Mass Communications, Master of Science (M.S.) – integrated PR and advertising

The M.S. in Mass Communications with a concentration in integrated public relations and advertising is a joint degree offered in collaboration with Fudan University in Shanghai, one of VCU's 16 recognized international partners, and VCU's School of Mass Communications. It is designed to educate Chinese students for the practice, in China, of professional public relations and/or advertising. Because in many agencies and organizations public relations and advertising are integrated, we are integrating the two professional disciplines in one degree program. The program is for Chinese students who have undergraduate degrees from a Chinese institution and who are already working or aspire to work in China for a public relations or advertising agency or an agency that combines the two persuasive communication disciplines. It is also open to students in the U.S. with the same undergraduate education and a desire to work in an internationally active public relations or advertising agency that does business in Asia/China. The program will prepare its students to function at a higher professional level than they can attain with their current academic and professional credentials.

This is a 30-credit program comprising 15 credit hours of VCU courses and 15 credit hours of Fudan University courses. All but one of the courses, a 1-credit thesis/project course, would be taught in Shanghai at Fudan University; the VCU courses would be taught by VCU faculty and the Fudan courses by Fudan faculty. The 1-credit thesis/project course is taught in a two-week residency at VCU in Richmond. VCU courses are taught in three-week blocks in Fudan's winter/spring semester (January through May), on Fridays and Saturdays, totaling 45 hours of instruction per 3-credit course. The 1-credit thesis/project course is taught in Richmond at VCU during the VCU summer session. Fudan courses are taught over regular Fudan University fall semesters prior to and following the VCU courses.

All students are required to demonstrate proficiency in a suite of software programs commonly used by public relations and advertising practitioners before enrolling in their first VCU course.

#### Student learning outcomes

Students graduating from this program will:

- Demonstrate a higher level of skills of the public relations management function, including strategy development and critical thinking
- Communicate clearly and effectively in written and spoken forms appropriate for strategic public relations practice, audiences and purposes they serve
- Demonstrate the ability to conduct research and evaluation to support strategic public relations decision-making
- Effectively apply tools and technologies appropriate to managing the process for strategic public relations

### Mass Communications, Master of Science (M.S.) – multimedia journalism

The M.S. in Mass Communications with a concentration in multimedia journalism will prepare students for the practice of professional journalism in a highly competitive and multiple-platform (print, broadcast, online/digital) news environment. The program is designed primarily for recent graduates who have an undergraduate degree in journalism or a related field or for professional journalists with several or more years of experience who want to upgrade their professional skills. The program will prepare students to function at a high level in contemporary newsrooms.

This professionally oriented graduate program focuses on building multimedia skills. The degree requires 36 credit hours, 30 of which are in the journalism discipline. Students take an additional six credit hours in a collateral area outside of mass communications. Students in this program learn the theory and practice of journalism in an immersion news environment, and can further specialize through graduate electives, projects and stories in any number of "beat" areas. For example, students can focus on coverage of health or the environment or concentrate on learning about international media coverage.

The program is designed so that students will take three courses each semester (fall and spring). During each semester, two of the courses will be offered in the

evenings and one will be offered online. Thus, students will be able to complete the course work over two years of study.

#### Student learning outcomes

Students graduating from this program will:

- Demonstrate a higher level of skills in concept building with a focus on critical thinking and in the design of journalism news stories and packages with a multimedia focus
- Communicate clearly and effectively in written and multimedia platforms to serve news audiences
- Demonstrate the ability to conduct basic research that is applicable to journalism and multimedia
- Effectively apply tools and technologies to multimedia news stories and packages as appropriate for the news industry and other communication workplaces

#### Curriculum

MASC 611 Research Methods in Mass Communication (3)  
 MASC 642 Online Journalism I (3)  
 MASC 643 Online Journalism II (3)  
 MASC 644 Computer-assisted Reporting (3)  
 MASC 645 Visual Journalism (3)  
 MASC 646 Convergence Law and Ethics (3)  
 MASC 684 Multiplatform Storytelling (3)  
 MASC 685 The Business of Media (3)  
 MASC 686 International Journalism (3)  
 MASC 688 Converged Media Applications (3)  
 or MASC 699 Thesis (3)  
 Graduate electives (6)

#### Admission requirements

Beyond the general standards listed in the Graduate studies at VCU section of this bulletin, admission to the multimedia journalism concentration of the mass communications master's program also will be based on:

- An undergraduate degree in journalism or a related field or several years of professional journalism experience
- An undergraduate GPA that exceeds 2.7 overall
- A GRE (general test) score that indicates the ability to pursue graduate work
- For international applicants (without a university degree with English as the language), TOEFL (or comparable) scores

Students who have not completed baccalaureate course work in journalism or who have not had the appropriate professional experience may be required to take undergraduate courses as a foundation. These do not count toward the graduate degree.

In addition, applicants must provide:

- A detailed CV showing work experience in journalism or appropriate educational credentials
- Transcripts of all previous work
- Three recommendations from persons who are qualified to give information concerning the applicant's ability for the specific program of study proposed
- A personal statement detailing specific journalism career goals
- A portfolio of work in journalism

### Mass Communications, Master of Science (M.S.) – strategic public relations

Graduates of the fast-track strategic public relations concentration of the Master of Science in Mass Communications are a new generation of communications professionals who are able to function in high-level management positions and apply sophisticated strategic thinking to accomplish organizational objectives.

This selective professional program is 30 credit hours, including six hours of approved elective courses in areas such as nonprofit management and marketing. Courses are taught by full-time faculty and experienced public relations professionals. Students take weekend classes (Friday evenings and all day

Saturday) as a cohort over four semesters. Continued full-time public relations employment is encouraged during the program.

One of the program's unique features is a two-week study abroad experience, an expectation of students while they are enrolled in the "Strategic PR in a Global Environment" course (MASC 683). The study tour is led by a full-time faculty member. The cost of the study abroad program is not included in the program's tuition.

Admission requirements include an academic background in public relations (university or professional accreditation program) and appropriate public relations experience. Applicants also need to take the Graduate Records Examination General Test.

## Student learning outcomes

Students graduating from this program will:

- Demonstrate a higher level of skills of the public relations management function, including strategy development and critical thinking
- Communicate clearly and effectively in written and spoken forms appropriate for strategic public relations practice, audiences and purposes they serve
- Demonstrate the ability to conduct research and evaluation to support strategic public relations decision-making
- Effectively apply tools and technologies appropriate to managing the process for strategic public relations

## Curriculum

	Credits
MASC 671 Strategic PR in a Digital Environment	3
MASC 672 Strategic PR Research and Evaluation	3
MASC 675 Strategic PR Management	3
MASC 676 Public Relations Ethics and Law	3
MGMT 651 Organizational Communication	3
MASC 682 Strategic Media Relations	3
MASC 683 Strategic PR in the Global Environment	3
MASC 694 Strategic PR Campaign Design and Implementation	3
Electives chosen from these School of Business offerings	
List A: Financial courses	3
ACCT 507 Fundamentals of Accounting	
ECON 500 Concepts in Economics	
FIRE 520 Financial Concepts of Management	
MGMT 524 Statistical Elements of Quantitative Management	
List B: Theory and application courses	
MGMT 530 Fundamentals of the Legal Environment of Business	
MGMT 540 Management Theory and Practice	
MGMT 641 Organizational Leadership and Project Team Management	
MGMT 655 Entrepreneurship	
MGMT 656 Best Practices in Leadership	
MGMT 691 Topics in Management (negotiations)	
MKTG 570 Concepts and Issues in Marketing	
MKTG 671 Marketing Management	
MKTG 672 Concepts in Consumer Behavior	
	30

## Admission requirements

To apply online, complete the application form available at the VCU Graduate School website. Note that this program has a summer admission only. Pay the online application fee. Send official, sealed transcripts for all graduate and undergraduate work to the VCU Graduate School. Make sure that official GRE scores are also sent to the Graduate School. Deadlines for admission are Jan. 15 and March 15 for preferred consideration. The school may admit other students who submit materials beyond those review deadlines, depending on available space.

Include the following items in your application packet:

- An updated resume
- A personal statement of educational and professional objectives
- Three official graduate references, using the forms available on the Graduate School website

- Portfolio material from undergraduate and/or graduate and/or professional experience
- Official transcripts of all graduate work
- Acceptable scores on the GRE General Test

International applicants without a degree from an English-language university must also submit TOEFL scores.

Contact the director of graduate studies in the School of Mass Communications for additional information and mailing instructions.

Students may also choose to enroll in the [VCU-Fudan University double master's degree program](#). These students take required courses at both Fudan University in Shanghai and at VCU in Richmond, Va. The program requires a minimum of 31 credits: 18 are from VCU's School of Mass Communications and the remaining 13 credit hours — preparatory foundation courses and the thesis supervision are taken at Fudan University's School of Journalism. Upon completion of all requirements, students in this double master's degree program will receive both the M.S. in Mass Communications from VCU and the Master of Literature from Fudan University.

## Dual degree: Master of Science in Mass Communications/Master of Literature (in conjunction with Fudan University)

Students enrolled in the VCU-Fudan University double master's degree program take required courses at both Fudan University in Shanghai and at VCU in Richmond, Va. The program requires a minimum of 31 credit hours: 18 are from VCU's School of Mass Communications and the remaining 13 credit hours — preparatory foundation courses and the thesis supervision — are taken at Fudan University's School of Journalism. Upon completion of all requirements, students in this double master's degree program will receive both the M.S. in Mass Communications from VCU and the Master of Literature from Fudan University.

The double degree program generally takes three academic years. The first three semesters are typically completed at Fudan. Students will continue their studies in VCU's School of Mass Communications for three semesters (second semester and summer of the second academic year and fall semester of the third academic year). Students return to Fudan for the final semester.

### Admission requirements

In addition to general admission requirements for the [M.S. in Mass Communications](#) and those for the strategic public relations track, applicants for the VCU-Fudan double master's degree program must:

- Pass the entrance examination for postgraduate studies in the School of Journalism at Fudan University.
- Attain a qualified English proficiency level (i.e., greater than 600 for TOEFL or equivalent for iBT Test).
- Attain a GRE General Test level of more than 1050 with no less than 500 for verbal (or equivalent for revised GRE).

### Curriculum information

**Preparatory foundation courses: taken at Fudan** (10 credit hours, not counted toward 31 credit hours for degree)

Advanced English (2, 2)  
Political theory training (2, 2)  
Specialized English (2)

**Basic courses: taken at Fudan** (Required, 8 credit hours)

JOUR6003 Research Methods of Communication (2)  
JOUR6005 Media Management (2)  
JOUR6007 Marxist Journalistic Ideology (2)  
JOUR6008 Research on Journalistic History and Theory (2)

**Specialized courses: taken at Fudan** (Electives, minimum of 5 credit hours)

JOUR6009 Journalist Practice (3)  
JOUR6010 The History of China's Journalism Thoughts (2)  
JOUR6011 The Study of Communication (3)  
JOUR6012 Cyber Communication (2)  
JOUR6013 Marketing Communication (3)  
JOUR6014 Consumer Behavior (2)  
JOUR6015 The Study of PR (2)  
JOUR6016 The Study of Current Publishing (3)  
JOUR6017 The Study of Current Newspapers (2)

**Strategic public relations courses: taken at VCU** (Required, 18 credit hours)

MASC 671 Strategic PR in a Digital Environment (3)

MASC 672 Strategic PR Research and Evaluation (3)

MASC 675 Strategic PR Management (3)

MASC 682 Strategic Media Relations (3)

MASC 683 Strategic PR in the Global Environment (3)

MASC 694 Strategic PR Campaign Design and Implementation (3)

**Internship: taken at VCU** (Elective, 1-3 credit hours)

MASC 695 Fieldwork/Internship (1-3)

**Thesis: taken at Fudan** (0)**Media, Art, and Text, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

Media, Art, and Text, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 15	GRE-General
<b>Special requirements:</b> Additional materials to be submitted directly to Thom Didato. For specific instructions please see <a href="http://www.has.vcu.edu/eng/graduate/admission.htm">www.has.vcu.edu/eng/graduate/admission.htm</a>			

VCU's interdisciplinary doctoral program in media, art, and text is a joint endeavor of the Department of English, the School of the Arts and the School of Mass Communications. The program emphasizes the historical and theoretical foundations essential to the scholarly study of media, both old and new, broadly defined. It provides an intellectually stimulating environment that encourages students to work both collaboratively and independently, as well as across and between disciplines and media. Students maintain a base in their primary area of research, which is usually but not always the field in which they have done prior graduate work.

**Student learning outcomes**

- Students will develop advanced communication skills in writing, speaking and the use of multimedia.
- Students will demonstrate a broad knowledge of history and theory as the foundation for interdisciplinary work in a specialized facet of media, art and/or text.
- Students will develop competence in interdisciplinary and disciplinary research methods and responsible conduct of research.
- Students will develop specialized knowledge in relevant fields to support dissertation and subsequent research.
- Students will demonstrate the ability to conduct independent research and produce new, specialized knowledge within the broad parameters of media, art and text.
- Students will develop a strong basis for ongoing professional practice.

**Curriculum**

The 42-hour curriculum comprises 36 hours of course work and a minimum of six hours of dissertation research. Course work includes a core of four required courses taken during the first two semesters by all incoming students. Three doctoral seminars provide a shared historical and theoretical foundation for the study of media, art, and text, while a workshop offers the opportunity to develop and expand professional and/or creative skills relevant to the student's career goals and research focus. In addition, all students will take a research methods course in a field relevant to their anticipated area of dissertation research.

Beyond the core, students select 21 hours of elective credits from course offerings in disciplines relevant to their research interests and career goals. The program offers a topics seminar focused on the history, theory or practice of media, art, and text. Independent study and internships are also available as electives. While enrollment in courses with the MATX prefix is guaranteed to matriculated MATX students, enrollment in other graduate courses is subject to the conditions established by individual units.

Together the core and the electives support the interdisciplinary work of the dissertation, which is an original scholarly examination of some aspect of media, art, and/or text. It may include work in media other than text. It is supervised by a

committee consisting of four or five members drawn from disciplines relevant to the research topic.

**Core courses** (12 credits)

MATX 601 Texts and Textuality

MATX 602 History of Media, Art, and Text

MATX 603 History of Interdisciplinarity and Multimedia

MATX 604 Workshop

**Methods course** (3 credits)**Electives** (21 credits)**Dissertation** (6 credits minimum)**Degree requirements****Credit requirements**

Students are required to complete 36 credit hours in core and elective courses and a minimum of six credit hours of dissertation research. Core courses are offered through the MATX program. Additional elective courses are drawn from seminars offered through MATX and approved courses in participating units.

**Grade requirements**

To graduate, degree applicants must achieve an overall grade point average of 3.0 (B) on a 4.0 scale with a grade of C in no more than two courses. The GPA for graduation will be based on all graduate courses attempted after acceptance into the program.

**Requirements for admission to candidacy**

Before beginning formal dissertation research, students must complete all 36 hours of required course work, both stages of the e-portfolio and the requirements described below. Upon completion of these, the student will apply for degree candidacy.

**Dissertation committee**

The dissertation committee consists of the director (who must hold a Ph.D.) and three or four additional members whose scholarly knowledge and interests are relevant to the project. The committee must have at least one member from each of the sponsoring units (Department of English, School of the Arts, School of Mass Communications). All must be members of VCU's graduate faculty. Appropriate faculty from outside VCU may serve on committees (but not as director) with the approval of the MATX director and the graduate dean. It is the student's responsibility to assemble the committee, in consultation with the dissertation director. Committees will not be appointed by the program.

**E-portfolio**

Work on the e-portfolio will begin in MATX 604 in the spring of the first year. There are no technical specifications, and content will include, but is not limited to, work done in the first two years in the program. It will take the form of a website and must demonstrate the technical skills (Web design, audio, video, etc.) relevant to the student's work on the dissertation and the career sought after VCU.

Submission is a two-stage process:

- Stage 1: May of the first year**  
A three- to five-page design rationale for the portfolio site along with a mock-up or rough structure
- Stage 2: April of the second year**  
A finished, live site accompanied by a five-page statement relating it to the student's work inside and outside the program and outlining how it uses media techniques to promote a specific professional and/or creative identity

Each submission is graded pass/fail and may be repeated once. A second failure results in automatic termination from the program.

**Competency**

Candidates must demonstrate competency in a skill or technique relevant to the dissertation research or planned professional career. The dissertation committee approves and administers the competency portion. Graded pass/fail, the test may be repeated once.



## Bibliography exam

On a reading list of 20 to 30 sources relevant to or supportive of the dissertation topic. The dissertation committee approves and administers the bibliography exam. Graded pass/fail, the test may be repeated once.

## Dissertation prospectus and prospectus defense

The prospectus is a 15- to 20-page document that indicates the significance of the proposed research, gives a short review of relevant literature, states the research question, specifies the proposed methodology and indicates how the project lays the foundation for the anticipated academic or professional career. It also includes a work plan for the completion of research and writing, as well as a complete bibliography. The prospectus is defended orally before the dissertation committee, which may accept, reject or require revisions. The defense may be repeated once.

## Dissertation and dissertation defense

The dissertation is an original, interdisciplinary and scholarly examination of a topic relevant to an aspect of media, art, and/or text. It may include work in media other than text. Given the varied nature of doctoral research, there is no set time frame for completion of a dissertation. It is expected, however, that the dissertation will be completed about two years after attaining candidacy. The dissertation will be defended orally before the dissertation committee. Successful defense of the dissertation completes the requirements for the degree.

## School of World Studies

On May 16, 2003, the Board of Visitors of Virginia Commonwealth University approved the creation of the School of World Studies within the College of Humanities and Sciences. The school is a creative, interdisciplinary grouping of subject areas in the humanities and the social sciences that provides its students with the knowledge, skills and experience necessary for success in an increasingly interdependent, globalized 21st century.

Sensitivity to the values, beliefs and structures of other cultures is a necessary characteristic of community and business leaders of the next century. The ability to live and work alongside those who are perceived as different from oneself and to recognize similarities among all humans will become an increasingly essential attribute of an educated citizen.

To achieve its mission, the School of World Studies actively fosters and promotes a wide range of endeavors, including the establishment of interdisciplinary undergraduate and graduate programs with an international focus across the campuses, and develops close ties with such programs as African American studies, womens studies, English, history, life sciences and other units throughout the university. In addition there are collateral requirements such as experiential learning through an approved internship, service-learning course or study-abroad program, the fulfillment of a World Passport, and advanced language skills.

Although the programs currently encompassed by the school are primarily at the undergraduate level, the School of World Studies offers a select number of graduate courses.

## Administration

312 North Shafer Street  
P.O. Box 842021  
Richmond, Virginia 23284-2021  
(804) 827-1111  
Fax: (804) 827-3479

[www.worldstudies.vcu.edu](http://www.worldstudies.vcu.edu)

Executive Committee  
**Christopher Brooks**  
**Angelina Overvold**  
**Mark Wood**

## Degree programs

The School of World Studies offers baccalaureate degrees in the following fields:

- Anthropology** – Bachelor of Science
- Foreign Language** – Bachelor of Arts
  - French

- German
- Spanish

**International Studies** – Bachelor of Arts (with the L. Douglas Wilder School of Government and Public Affairs)

- area studies
- global studies

**Religious Studies** – Bachelor of Arts

Minors are awarded in these areas:

African studies  
Anthropology  
Arabic and Middle Eastern studies  
Asian and Chinese studies  
Catholic studies  
European studies  
French  
German  
International social justice studies  
Islamic studies  
Italian studies  
Judaic studies  
Latin American studies  
Mediterranean studies  
Religious studies  
Russian studies  
Spanish  
World cinema

Undergraduate certificates are awarded in these areas:

- International management studies (in conjunction with the School of Business)
- International social justice studies (in conjunction with the School of Social Work)
- Spanish/English translation and interpretation

Information regarding curricula is provided on the respective program pages.

## Languages

The School of World Studies offers students significant opportunities to broaden their knowledge of diverse cultures through language study, including:

Arabic  
Biblical Hebrew  
Chinese  
French (major and minor)  
German (major and minor)  
Hindi  
Italian  
Latin  
Portuguese  
Russian (minor)  
Spanish (major and minor)  
Zulu

In cases where the appropriate level of instruction is unavailable, faculty advisers will assist the student in identifying language study options at other U.S. institutions or abroad.

## School of World Studies courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The World School offers courses in the following areas:

Use this link to see anthropology ([ANTH](#)) courses.

Use this link to see foreign literature in English translation ([FLET](#)) courses.

Follow these links to geography ([GEOG](#)) courses or the ([GEOZ](#)) laboratories.

Use this link to see international studies ([INTL](#)) courses.

Use this link to see religious studies ([RELS](#)) courses.

Use this link to see world studies ([WRLD](#)) courses.

## Foreign language courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Students planning to take a foreign language course at VCU must take the placement test in order to determine proper course selection. Specific information about the placement test is available on the School of World Studies website at [www.has.vcu.edu/wld/placement](http://www.has.vcu.edu/wld/placement).

Students who wish to complete a language through the intermediate level or higher are required to **consecutively** complete 101, 102 and 201 or the equivalent. Students may then choose either 202 or 205 to complete the intermediate level.

The School of World Studies offers courses in the following languages:

Use this link to see Arabic ([ARBC](#)) courses.

Use this link to see Chinese ([CHIN](#)) courses.

Use this link to see foreign languages ([FRLG](#)) courses.

Use this link to see French ([FREN](#)) courses.

Use this link to see German ([GRMN](#)) courses.

Use this link to see Italian ([ITAL](#)) courses.

Use this link to see Latin ([LATN](#)) courses.

Use this link to see Portuguese ([PORT](#)) courses.

Use this link to see Russian ([RUSS](#)) courses.

Use this link to see Spanish ([SPAN](#)) courses.

## Department of African American Studies

**Shawn Utsey**

Associate Professor and Department Chair

[www.has.vcu.edu/aas](http://www.has.vcu.edu/aas)

The Department of African American Studies at Virginia Commonwealth University provides an educationally rich environment in which students and scholars research, learn and teach about the past and present realities of people of African descent. Employing a wide range of theories, perspectives, methods and tools, African American Studies faculty explore social, political, economic and cultural realities and connections between the experiences of persons in Africa and throughout the African Diaspora. The department emphasizes experiential learning, offers study abroad opportunities and internships.

## African American studies courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to African American studies ([AFAM](#)) courses.

## Department of Biology

The Department of Biology offers programs leading to baccalaureate, master's and doctoral degrees; the doctoral degree is offered through the Integrative Life Sciences program. Students may specialize within many areas, such as molecular and cellular biology, genetics, aquatic and terrestrial ecology, systematics, physiology, neurobiology, and developmental biology. Students also may develop an interdisciplinary focus to their degree program, for example within areas such as bioinformatics, cancer biology, forensic science and environmental science.

In addition to the courses offered by the Department of Biology, graduate students may enroll in graduate courses offered through VCU Life Sciences and these departments at the VCU Medical Center: Anatomy and Neurobiology, Biochemistry, Biostatistics, Human and Molecular Genetics, Microbiology and Immunology, Pathology, Pharmacology and Toxicology, and Physiology and Biophysics. Visit the Department of Biology's Web site: [www.has.vcu.edu/bio](http://www.has.vcu.edu/bio).

## Administration

**Donald R. Young**

Professor and Department Chair

**Jennifer K. Stewart**

Associate Professor and Director of Graduate Studies

[www.has.vcu.edu/bio](http://www.has.vcu.edu/bio)

## Biology courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The following courses do not apply toward the major in biology: BIOL 101, BIOZ 101, BIOL/ENVS 103, BIOL 201, BIOZ 201, BIOL 205, BIOZ 205, PHIS 206, PHIZ 206, BIOL 209, BIOZ 209, BIOL 217, and BIOL 332. A C grade or better in each prerequisite course is required for enrollment in all biology courses BIOL 205 or higher that have prerequisites listed in their course descriptions.

Follow these links to biology ([BIOL](#)) courses or the ([BIOZ](#)) laboratories.

### Biology, Master of Science (M.S.)

#### Admission requirements summary

Biology, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jan 15 (for priority financial aid consideration)	GRE-General
	Other semesters by special permission from the graduate director		

The Department of Biology offers programs leading to a Master of Science degree. Areas of specialization include molecular and cellular biology, terrestrial and aquatic ecology, systematics, and physiology and developmental biology.

#### Student learning outcomes

- Acquire training within the chosen subdiscipline of biology through course work and thesis research
- Learn the most recent advances in the respective field through classroom instruction, seminars and informal discussions with faculty and peers
- Learn cutting-edge research techniques through thesis research
- Develop skills for presentation of thesis research
- Develop skills for publication of research

## Admission requirements

In addition to the general requirements for admission to the Graduate School, the following requirements of the Department of Biology represent the minimum acceptable standards for admission:

- Bachelor's degree in biological or related science or equivalent
- Appropriate college-level background in mathematics, chemistry and physics
- Three letters of recommendation pertaining to the student's potential ability as a graduate student in biology
- Student's written statement concerning career and research interests
- Transcripts of all previous college work
- Satisfactory scores on the GRE (general test)

## Degree requirements

Master of Science degree candidates are required to take a minimum of 30 semester credits, which shall include the following specifications:

- 19 credits must be courses designated exclusively for graduate students
- A minimum of two and a maximum of four credits must be BIOL 693 Current Topics in Biology
- A minimum of six and a maximum of nine credits must be BIOL 698 Thesis

- At least five lecture or lecture laboratory courses must be taken from at least three different instructors (excluding Thesis, Research Seminar and Independent Study)

All graduate students are required to write a thesis proposal and a formal thesis following a prescribed format. The thesis proposal must be approved by the student's graduate committee and the chair of the department to initiate thesis research. At the earliest possible opportunity, students must take STAT 543 or an equivalent statistics course approved by the student's graduate committee. Students entering the program with a statistics background equivalent to STAT 543 may petition the Biology Department Graduate Academic Committee to have this requirement waived.

A maximum of six semester hour credits from graduate work taken at other institutions may be transferred if they meet approval of the department.

Receipt of a grade of C or lower in two courses constitutes automatic dismissal from the graduate program in biology. Courses with a grade of C or lower cannot be applied to satisfying the degree requirements.

Each student will be required to pass a final examination, which will be primarily a defense of the thesis.

Continuous enrollment in the graduate program is required. Interruption in continuous enrollment for any reason without a leave of absence approved by the director of the graduate program in biology will require that students reapply to the Department of Biology Graduate Academic Committee.

### Integrative Life Sciences, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Integrative Life Sciences, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall (preferred) Spring Summer	Feb 1	GRE
Special requirements: See program <a href="#">website</a>			

The Ph.D. in Integrative Life Sciences is designed for students who want to conduct research that is integrative across multiple disciplines and that takes a systems approach to emerging research questions across the many fields that comprise the life sciences. Students may opt to work with faculty members from departments on both campuses. The program provides the opportunity to conduct interdisciplinary research at multiple scales of study from the molecular to ecosystem levels with an emphasis on the concepts of systems biology and biological complexity.

#### Student learning outcomes

1. The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
2. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
3. The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
4. The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
5. The candidate will demonstrate an appropriate level of knowledge of the life sciences and a more detailed understanding of the disciplines most pertinent to their own interdisciplinary research area, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.

### Admission requirements, procedures and financial aid

The purpose of the admission requirements for the Ph.D. program is to ensure selection of outstanding students whose motivation, ability and education prepare them for interdisciplinary graduate study in the life sciences. The following requirements and procedures incorporate those of the [VCU Graduate School](#).

1. Admission requirements
  - a. Graduation from an accredited college or university or its equivalent, with a degree in a discipline, a spectrum of course work, and/or professional experience that provides an appropriate background for graduate-level study in the life sciences.
  - b. An undergraduate or graduate record indicating superior performance. Applicants must have a minimum GPA of 3.0 on a 4.0 scale for at least the last 60 credits of undergraduate work or for a completed graduate degree. In very unusual cases, this requirement may be waived by approval of the dean of the Graduate School.
  - c. Satisfactory scores on the Graduate Record Examination. Scores for appropriate advanced tests, in particular biology, chemistry or molecular biology/biochemistry, are recommended.
  - d. For applicants whose native language is not English, satisfactory scores from a standardized test commonly used and deemed appropriate for evaluation of English language proficiency, such as the TOEFL.
  - e. Letters of recommendation from three present or former instructors or other individuals qualified to evaluate the applicant's ability to engage in graduate study in the life sciences.
  - f. A written statement describing the applicant's interests, motivation, education and goals for pursuing graduate study in the life sciences.
2. Admission procedure
  - a. The above material must be sent along with a completed application form and the required application fee to the Graduate School, Virginia Commonwealth University, Richmond, VA 23284-3051. Application forms and further information can be found on the Graduate School's Web page at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).
  - b. Applicants may apply for admission to begin studies any semester of the year, but fall admission is recommended. Admission to graduate study in integrative life sciences requires majority approval and recommendation by the Graduate Program Committee and acceptance by the vice provost for Life Sciences and the dean of the Graduate School.
3. Types of admission
  - a. Degree-seeking student: An applicant who meets all requirements for admission to the program.
  - b. Provisional student: An applicant who has not fully met the requirements of the program but shows exceptional promise. Applicants with outstanding potential but who lack courses or training in specific areas deemed necessary for success in the program may be required to complete specific course work. Provisionally accepted students must remove all conditions of the provisional admission within one year of enrollment. Failure to meet these conditions will result in the student being dismissed from the program. No prerequisite courses taken as a provisional student may be applied toward the graduate degree.
4. Financial aid. In addition to need-based financial aid awarded through the Office of Financial Aid, students may be eligible to be considered for a variety of scholarships, fellowships, and teaching and research assistantships. Information regarding available financial support will accompany an offer of acceptance.

### Degree requirements

Students are required to complete course work in core and elective courses and to conduct significant research. All work toward the degree must be completed within seven years of the first enrollment.

1. **Credit requirements.** Students in the program are required to earn a minimum of 64 hours of graduate-level credits. At least one-half of the credit hours presented for graduation must be at the 600 level or higher.

2. **Grade requirement.** Degree applicants must achieve an overall GPA of 3.0 ("B") with a grade of "C" in no more than two courses. The GPA for graduation is based on all graduate courses attempted after acceptance into the program.
3. **Transfer and M.S. credits.** Graduate-level course work taken in another program at VCU or at another institution, shall be evaluated to determine whether it can be used to fulfill degree requirements of this program. There is no limit to the number of credits that can be transferred from another program at VCU as long as they have not been previously applied toward another degree. A maximum of six credits earned at another institution can be accepted for transfer into the program if not previously applied toward another degree. A minimum grade of "B" is required for credits transferred.
4. **Research adviser and committee.** New students entering the program may be initially advised by an advisory committee of faculty members to assist students with initial course selection and to provide advice concerning the program. Students should select a research adviser prior to their third semester of study. The research adviser may be chosen from among the many graduate faculty members associated with this program from either campus.

Students are required to form a research advisory committee that is headed by the research adviser and consists of a minimum of five members of the VCU graduate faculty. Individuals who are not graduate faculty members (i.e. individuals from another institution or industry) must apply to the dean of the Graduate School for temporary membership. The significant areas of the student's research focus should be represented by the members of the research advisory committee. At least two members of the committee shall be from departments other than that of the research adviser, with one of those members being integrally associated with the student's research to foster the interdisciplinary intent of this degree program. Students should form their committee no later than the end of their third semester of study.

5. **Written and oral examinations.** Before admission to candidacy for the Ph.D. degree, students must successfully complete a comprehensive written examination and an oral examination. The student's research advisory committee will administer both exams. Students should take the written exam upon completion of all required didactic course work. It will focus on material covered in core and selected elective courses as well as fundamental knowledge relevant to the student's research field. Upon successful completion of the written examination and submission and acceptance of a research proposal, students should take an oral examination that includes a defense of the proposed research project and other subject areas deemed appropriate by the committee. Students may retake the written and oral examinations only once.
6. **Dissertation research.** The dissertation research project should represent a significant contribution to the body of knowledge in its field and should be deemed suitable for publication in refereed journals. The emphasis of the research conducted by students in this program should be on interdisciplinary research, incorporating two or more disciplines and with a systems approach. Research projects may take advantage of the many research opportunities across the life sciences on both campuses. Projects may encompass multiple scales of study from molecular to ecosystem levels. Students shall prepare a written dissertation describing the completed research using the format approved by the Graduate School. An oral defense of the dissertation, under the direction of the research advisory committee and open to all faculty members, also is required. Upon successful completion of all degree requirements, students will graduate with the Ph.D. in Integrative Life Sciences.

## Curriculum requirements

A minimum total of 64 credits is required and is distributed as follows:

- 12 credits in core courses  
 LFSC 510/ BIOL 545 Biological Complexity  
 LFSC 520/BIOL 548 Bioinformatic Technologies  
 LFSC 630 Integrative Life Sciences Research  
 LFSC 690 Research Seminar in Integrative Life Sciences  
 OVPR 601 Scientific Integrity
- a minimum of three credits in an advanced statistics, advanced mathematics or experimental design course depending on the students area of research\*  
 BIOL 606 Quantitative Ecology  
 BIOS/STAT 523 Nonparametric Statistical Methods

BIOS 524 Biostatistical Computing  
 BIOS 572 Statistical Analysis of Biomedical Data  
 BNFO/BIOL 601 Integrated Bioinformatics  
 ENV5 603 Environmental Research Methods  
 LFSC 610 Analytical Methods in Biocomplexity Analysis  
 MATH 591 Topics in Mathematics: Mathematical Biology  
 MATH 617 Applied Mathematics I  
 STAT/BIOS 544 Statistical Methods II  
 STAT 623 Discrete Multivariate Analysis  
 STAT 643 Applied Linear Regression  
 Other courses based on approval of research advisory committee

- a minimum of nine credits in elective courses based on research interest and approved by research advisory committee
- a minimum of 40 credits in directed research (LFSC 697)

\* Students are expected to enter the program with a proficiency in statistics at the introductory level, as exemplified by STAT/BIOS 543 Statistical Methods. Students not at this level, as evidenced by prior course work, will be required to take STAT/BIOS 543 or an equivalent course.

## Department of Chemistry

The Department of Chemistry offers programs leading to the Bachelor of Science, Master of Science and Doctor of Philosophy degrees. For undergraduate students, the Bachelor of Science offers concentrations in chemical science, professional chemist, professional chemist with honors, biochemistry and chemical modeling.

For graduate students, the Master of Science and Doctor of Philosophy programs provide opportunities for concentrated study in analytical, inorganic, organic or physical chemistry, or chemical physics. A plan of study is worked out for each student to ensure a sound basis for research. In keeping with the university's commitment as an urban institution, the department also offers part-time programs leading to these degrees.

Refer to the department's website for more information: [www.has.vcu.edu/che](http://www.has.vcu.edu/che).

## Administration

**Scott Gronert**  
 Professor and Department Chair

**Sally S. Hunnicutt**  
 Associate Professor and Assistant Department Chair

[www.has.vcu.edu/che](http://www.has.vcu.edu/che)

## Admission requirements for graduate study

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, students are expected to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry. Admission on a provisional basis is possible for a student temporarily lacking this expected chemistry background. Acceptance is based upon undergraduate performance, satisfactory scores on the GRE and letters of recommendation.

Graduate students in the Department of Chemistry may receive financial support via teaching or research assistantships or fellowships. Application forms and instructions for applying to all graduate programs are available on the Graduate School website at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

## General degree requirements for graduate programs

Entering graduate students are required to take proficiency examinations in analytical, inorganic, organic and physical chemistry. These examinations are at the level of sound undergraduate courses and are offered preceding the start of the school's fall and spring semesters. These tests are used to evaluate the student's strengths and weaknesses, and the student's program is planned accordingly.

## Chemistry courses



Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

A minimum grade of C is required in each prerequisite course: CHEM 100 (if required through placement qualifiers), CHEM 101, CHEM 102, CHEM 301, CHEM 302 and CHEM 309.

In chemistry laboratories each student is charged for breakage incurred. Approved safety glasses are required. Failure to check out of laboratory, upon withdrawal or for other reasons, will incur a charge, billed from the Student Accounting Department.

Follow these links to chemistry ([CHEM](#)) courses or the ([CHEZ](#)) laboratories.

### Chemical Biology, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Chemical Biology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall Spring	Mar 15 Nov 15	GRE

#### Student learning outcomes

- Demonstrate expertise (breadth and depth) in chemical biology
- Demonstrate appropriate ability to design and conduct experimental research
- Demonstrate ability to analyze data critically and to design experiments independently
- Develop competency in the responsible conduct of research
- Develop effective oral and written communication skills

#### Admission requirements

Admission requirements for the Ph.D. in Chemical Biology are similar to those for other doctoral programs at the university. Acceptance is based upon undergraduate performance, satisfactory scores on the GRE and letters of recommendation. In addition to the [general requirements for admission to graduate programs in the Graduate School](#) and [admission requirements for the College of Humanities and Sciences](#), students are required to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry or biology. These credits should consist of at least two semesters of organic chemistry and a biology course in cell biology, molecular biology or genetics. A physical chemistry course is desirable. Further requirements include a satisfactory GPA score of at least 3.0 on a 4.0 scale; satisfactory GRE scores (must be less than five years old); a written statement of the candidate's goals; and three letters of recommendation. Proficiency in spoken and written English is mandatory. For international students, satisfactory scores on the TOEFL exam are necessary. The university minimum TOEFL score is 550 (paper-based) and 213 (computer-based). Scores must be current (within two years). Students may be admitted as degree-seeking or, if applicants have outstanding potential, but lack specific requirements, they may be accepted as provisional. Graduate students in the program may receive financial support via teaching or research assistantships or fellowships available from the "home" department. Provisionally accepted students must complete all conditions within one year of enrollment. No part-time students are accepted at this time.

Students entering in the spring semester may begin to take courses and rotations to fulfill requirements but must take CHEB 601 and 602 in sequence.

#### Degree requirements

Candidates for degrees are eligible for graduation upon completion of all academic requirements in effect at the time of their first registration, provided the students are continuously enrolled and provided the requirements are met within the specified time frame. Degrees are granted at the close of the semester or summer session in which students complete their work.

### Chemistry, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Chemistry, Doctor of Philosophy (Ph.D.)			
Indicate specialization: Analytical, Inorganic, Organic, Physical or Chemical Physics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall Spring	April 15 Oct 15	GRE

Students seeking the Doctor of Philosophy degree must demonstrate competency in analytical, inorganic, organic and physical chemistry by satisfactory performance on the proficiency exams or with a minimum grade of B in the appropriate course.

The Doctor of Philosophy student must earn a minimum of 18 credits in eight didactic graduate courses, not including credit for seminar (CHEM 690 or 692), research (CHEM 697) or CHEM 693 Chemistry Perspectives and Ethics. The credit hours must include three of the core courses (9 credits) selected from the following four areas.

#### Analytical:

3 credits of graduate analytical course work

#### Inorganic:

CHEM 620 Advanced Inorganic Chemistry I

#### Organic:

CHEM 504 Advanced Organic Chemistry I

#### Physical:

CHEM 510 Atomic and Molecular Structure **or**

CHEM 511 Chemical Thermodynamics and Kinetics

Additional graduate courses to be taken will be determined in consultation with the faculty research adviser and the faculty of the Department of Chemistry. Students are expected to participate in the department's seminar program and present at least two formal talks in the seminar program (2 credits of CHEM 692). In addition to course work and seminar, the doctorate requires a minimum of 30 credits in CHEM 697 (directed research), and the total of all credits must be at least 60.

All Ph.D. students are required to take CHEM 693 Chemistry Perspectives and Ethics in their first year enrolled as an admitted graduate student in chemistry.

All Ph.D. students are required to enroll in CHEM 698 Investigations in Current Chemistry Literature (0.5 credit) twice during the course of their graduate studies, including the semester preceding their literature seminar presentation. Up to 2 credits of CHEM 698 may be presented toward didactic course graduation requirements to count as one course.

The student is required to complete written and oral examinations in his/her major field to become a doctoral candidate. The written examinations consist of a series of cumulative exams based on the chemistry literature. The oral examination includes the presentation and defense of the proposed dissertation research. The student must conduct a substantial original investigation under the supervision of his/her adviser and must prepare a dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. An oral defense of the dissertation will be held. Full-time students should complete the degree requirements in four to five years.

#### Student learning outcomes

- Demonstrate expertise (breadth and depth) in chemistry
- Demonstrate appropriate ability to design and conduct experimental research
- Demonstrate ability to analyze data critically and to design experiments independently
- Develop competency in the responsible conduct of research
- Develop effective oral and written communication skills

### Chemical physics track

Students entering the chemical physics track must pass proficiency examinations in two areas of chemistry and two areas of physics (mechanics, electricity and magnetism). Students entering with a bachelor's or master's degree in chemistry who have not taken the courses previously may satisfy the physics requirement with an A or B in PHYS 301, 302 and 376. Students entering with a bachelor's or

master's degree in physics who have not taken the chemistry courses previously may satisfy the chemistry requirement with an A or B in two of the four courses, CHEM 301-302 (organic chemistry; the two-course sequence counts as one course only), CHEM 406 (inorganic chemistry), CHEM 409 (instrumental analysis) or CHEM 510 (atomic and molecular structure).

Students in the chemical physics program are required to complete CHEM 510 or PHYS 580, CHEM 511, CHEM 612, PHYS 576 and 641, plus three courses from the following list: CHEM 512, 550, 591, 610, 611, 615, 616, 620, 634, 635, 691; PHYS 550, 571, 573, 591, 661, 691; MATH 532, 533; NANA 650, 651. A minimum of four graduate courses must be in chemistry. All graduate students seeking the Ph.D. degree must complete 30 hours of CHEM 697 (research) as part of fulfilling the requirements for the degree. However, students electing the chemical physics option may substitute 15 credits of PHYS 697 for 15 credits of CHEM 697.

All other requirements are the same as those stated for the [Ph.D. in Chemistry](#).

Additional information and a more detailed description of the graduate program may be obtained from the Department of Chemistry.

## Chemistry, Master of Science (M.S.)

### Admission requirements summary

Chemistry, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	April 15 Oct 15	GRE

Students seeking the Master of Science degree must demonstrate competency in analytical, inorganic, organic and physical chemistry by satisfactory performance on the proficiency exams or with a minimum grade of B in the appropriate course. These examinations are at the level of sound undergraduate courses and are offered preceding the start of the school's fall and spring semesters. These tests are used to evaluate the student's strengths and weaknesses, and the student's program is planned accordingly.

The Master of Science student must earn a minimum of 15 credits in six didactic graduate courses, not including credit for seminar (CHEM 690 or 692), research (CHEM 697) or CHEM 693 Chemistry Perspectives and Ethics. The credit hours must include three of the core courses (9 credits) selected from the following four areas.

#### Analytical:

3 credits of graduate analytical course work

#### Inorganic:

CHEM 620 Advanced Inorganic Chemistry I

#### Organic:

CHEM 504 Advanced Organic Chemistry I

#### Physical:

CHEM 510 Atomic and Molecular Structure **or**  
CHEM 511 Chemical Thermodynamics and Kinetics

Additional graduate courses to be taken will be determined in consultation with the faculty research adviser and the faculty of the Department of Chemistry. Students are expected to participate in the department's seminar program and present at least two formal talks in the seminar program (2 credits of CHEM 692). In addition to course work and seminar, the master's degree requires a minimum of 15 credits in CHEM 697 (directed research), and the total of all credits must be at least 30.

All Master of Science students are required to take CHEM 693 Chemistry Perspectives and Ethics in their first year enrolled as an admitted graduate student in chemistry.

All M.S. students are required to enroll in CHEM 698 Investigations in Current Chemistry Literature (0.5 credit) twice during the course of their graduate studies, including the semester preceding their literature seminar presentation. Up to 2 credits of CHEM 698 may be presented toward didactic course graduation requirements to count as one course.

An acceptable research thesis and a final oral examination on the thesis are required. Full-time students should complete these degree requirements in two to three years.

### Student learning outcomes

- Demonstrate expertise (breadth and depth) in chemistry
- Demonstrate appropriate ability to design and conduct experimental research
- Demonstrate ability to analyze data critically and to design experiments independently
- Develop competency in the responsible conduct of research
- Develop effective oral and written communication skills

## Nanoscience and Nanotechnology, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Nanoscience and Nanotechnology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall Spring	Mar 15 Nov 15	GRE

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, students are expected to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry, physics or engineering.

Admission on a provisional basis is possible for a student temporarily lacking the expected background. Acceptance is based upon undergraduate performance, satisfactory scores on the GRE and letters of recommendation.

Graduate students in the nanoscience and nanotechnology Ph.D. program may receive financial support via teaching or research assistantships or fellowships available from the "home" department. Application forms and instructions for applying to all graduate programs are available on the Graduate School website at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

### Student learning outcomes

- Develop effective oral and written communication skills
- Demonstrate expertise (breadth and depth) in nanoscience
- Demonstrate appropriate ability to design and conduct experimental research
- Demonstrate ability to analyze data critically and to design experiments independently
- Develop competency in the responsible conduct of research

### General degree requirements for graduate program

Students preparing for the Doctor of Philosophy degree in nanoscience and nanotechnology must earn a minimum of 72 credits consisting of core courses (9 credits), elective courses (9 credits), seminar (8 credits) and research (46 credits). The core courses include:

NANO 570 Nanoscale Physics (3 credits)  
NANO 571 Nanoscale Chemistry (3 credits)  
NANO 650, 651 Experimental Techniques in Nanoscience I, II (3 credits) **or**  
NANO 660 Theoretical Studies of Nanostructures (3 credits)

The 9 elective credits shall be chosen from the following courses or other courses as approved by the program director.

CHEM 510 Atomic and Molecular Structure  
CHEM 511 Chemical Thermodynamics and Kinetics  
CHEM 580 Mechanical Properties of Plastics and Polymers  
CHEM 591 Topics in Chemistry  
CHEM 610 Applied Quantum Chemistry  
CHEM 611 Molecular Spectroscopy  
CHEM 612 Modern Statistical Mechanics: Fundamentals and Applications  
CHEM 634 Surface Science  
CHEM 635 Spectrochemical Analysis  
CHEM 691 Topics in Chemistry  
PHYS 550 Techniques in Material Research  
PHYS 580 Quantum Mechanics  
PHYS 591 Topics in Physics

PHYS 641 Solid State Physics  
 PHYS 661 Surface and Materials Physics  
 PHYS 691 Special Topics  
 CLSE 645 Biosensors and Bioelectronic Devices  
 CLSE 675 Polymers in Medicine  
 EGRB 613 Biomaterials  
 EGRE 525 Fundamentals of Photonics Engineering  
 EGRE 621 Spintronics  
 EGRE 623 Nanostructures and Nanodevices  
 EGRM 609 Advanced Characterization of Materials  
 ENGR 505 Characterization of Materials  
 ENGR 691 Special Topics in Engineering

The student will attend NANO 690 Research Seminar in Nanoscience and Nanotechnology throughout their degree program, receiving an S or U grade based on attendance and participation. The student will also give two seminar presentations, one on a literature topic and one on their dissertation research, which will be graded on the A/B/C/D/F scale.

Before admission to candidacy for the Ph.D. degree, students must have (a) completed at least 12 credits of their required course work; (b) successfully completed cumulative exams; and (c) successfully completed an oral candidacy examination based on a research proposal. The student will be required to complete a series of cumulative exams in the area of nanoscience and nanotechnology, which will normally occur during the student's second year in residence. After completion of the cumulative exams, an oral candidacy examination is then required to become a Ph.D. candidate. The oral examination, which is administered by the student's Graduate Dissertation Committee, is based upon a written proposal describing the proposed dissertation research project. It is intended to evaluate the adequacy of the proposed project, the student's level of understanding of the project and the likelihood that the dissertation can be completed successfully.

The student must conduct a substantial original investigation under the supervision of his/her adviser and must submit to the Graduate Dissertation Committee a written dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. The oral dissertation defense, conducted under direction of the Dissertation Committee, will examine the candidate's research, dissertation documentation and underlying fundamental knowledge encompassed by his/her research. Upon successful completion of the defense and the dissertation, the student may apply for graduation with the Ph.D. in Nanoscience and Nanotechnology. Full-time students should complete the degree requirements in four to five years.

## Department of English

The purpose of the Department of English is to teach students to see their worlds with clarity and respond to them with sensitivity, through reading and writing. Students are invited to read and explore a diversity of texts created in different times and voices and then to respond to these texts variously and critically, situating them within their contexts and discerning their important aesthetic features, rhetorical elements and social functions.

Students in this department also are encouraged to express themselves in expository or imaginative works that engage thought and feeling, evince purpose clearly, marshal appropriate evidence and observe principles of rhetorical decorum.

The Department of English offers a Bachelor of Arts in English, as well as minors in American studies (in conjunction with the Department of History), British studies, English (for non-English majors), writing and creative writing, the Master of Arts in English and the Master of Fine Arts in Creative Writing, and a doctoral program leading to a Ph.D. in Media, Art, and Text. Use the program search navigation to view individual program descriptions and curricula, or visit the department's website at [www.has.vcu.edu/eng](http://www.has.vcu.edu/eng) for additional information.

## Administration

**Katherine Bassard**  
 Professor and Department Chair

**David Latané**  
 Professor and Associate Department Chair

**David Coogan**  
 Associate Professor and Director of Undergraduate Studies

**Joshua Eckhardt**  
 Associate Professor and Director of the M.A. Program

**Susann Cokal**  
 Associate Professor and Director of Creative Writing/M.F.A. Program

**Eric Garberson**  
 Associate Professor of Art History and Director, MATX Program  
[www.has.vcu.edu/eng](http://www.has.vcu.edu/eng)

## English courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to English ([ENGL](#)) courses.

### Creative Writing, Master of Fine Arts (M.F.A.)

#### Admission requirements summary

##### Creative Writing, Master of Fine Arts (M.F.A.)

Indicate specialization:

Fiction, Poetry or both genres

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Feb 1	GRE-General

Special requirements:

Portfolio

The Master of Fine Arts in Creative Writing is designed to attract students from diverse undergraduate backgrounds who are writers of promise. The program is suited particularly to those interested primarily in the writing of fiction and poetry; however, some emphasis also is placed on the writing of nonfiction, playwriting and screenwriting.

Graduate students in creative writing are encouraged to develop a strong personal sense of aesthetics and ethics and to pursue excellence in writing and scholarship, as well as in teaching, if they are pursuing that career option. Through the workshop experience, as well as personal conferences with the writing faculty, the program aims to help students significantly advance the quality of their writing, to enable them to become expert critics of their own and others' work, and to advise them as they seek to publish their writing.

#### Student learning outcomes

- Students will develop and refine their individual writerly voices, produce literary work of a high quality and demonstrate a comprehensive understanding of their own aesthetics, as well as the literary models and cultural sources of those aesthetics.
- Students will actively engage in a wider literary culture and community, whether at the local, regional, national or international level.
- Students will develop constructive workshop practices and demonstrate the ability to read closely and respond perceptively and critically to the writing of their fellow M.F.A. students.
- Students will demonstrate an advanced comprehension of editing and revision techniques and strategies, which include synthesizing challenges, advice and critiques from professors and fellow M.F.A. students.
- Students will develop, hone and articulate a keen sense of their artistic and career goals.

#### Fiction learning outcomes

- Students will demonstrate the use or knowledge of effective approaches for creating sustained works of fiction distinguished by a nuanced use of appropriate narrative elements, techniques and conventions.
- Students will demonstrate a highly developed proficiency in understanding and creating story structures appropriate to their purpose and audience, as well as to their chosen literary modes and styles.
- In a statement of purpose or aesthetics that is part of their thesis manuscript, as well as in an exit interview/thesis defense, students will appraise and locate their own work within literary and cultural contexts.

**Poetry learning outcomes**

- Students will demonstrate a skillful use or knowledge of major poetic devices, such as metaphor, imagery, lineation, persona, types of rhythm, rhyme and other sonic effects.
- Students will demonstrate the use or knowledge of classic poetic forms, such as the sonnet, the ode and the elegy, as well as other contemporary, experimental or avant-garde forms.
- In a statement of purpose or aesthetics that is part of their thesis manuscript, as well as in an exit interview/thesis defense, students will appraise and locate their own work within literary and cultural contexts.

**Admission requirements**

Admission to the Master of Fine Arts Program is based most importantly on the candidate's submitted creative writing portfolio (thus students who have produced little or no creative writing prior to their application would not be eligible. The deadline for application to the Master of Fine Arts Program is Feb. 1. In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, the following requirements, established by the Creative Writing Master of Fine Arts Committee, represent the minimum acceptable standards for admission:

- A portfolio of promising fiction or poetry, possibly with drama (as a minimum, approximately eight to 10 poems, or 20 or more pages of fiction, or one act from a play, or some combination of these; in all cases, applicants should submit only their strongest creative writing samples) to be submitted to the M.F.A. program director
- Three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school, especially in a creative writing program
- A scholastic record that is indicative of the applicant's ability to pursue a graduate degree successfully
- A baccalaureate degree or its equivalent
- Completion of the GRE (the subject test in literature is not required for M.F.A. applicants)

**Degree requirements**

A total of 48 semester hours is required to complete the degree. The basic course of study required in the program includes: 12 semester hours of graduate creative writing workshops (required), 12 hours of graduate literature courses (required), and six to 12 hours of thesis work (required); the remaining 12 to 18 hours are electives, taken in literature, workshops or other graduate courses. Beyond the required courses, the student is free to work out a total program of 48 hours, with the advice of the program director or the student's thesis adviser, which is appropriate to the individual student's aims and interests. The thesis work gives students the opportunity to produce a manuscript of publishable quality. Course work also is available in the techniques of teaching creative writing, and the program is flexible enough to include studies undertaken in other departments of the university as well, including Art History, Theatre, Philosophy and the School of Mass Communications.

**English, Master of Arts (M.A.)****Admission requirements summary**

English, Master of Arts (M.A.)			
Indicate specialization: Literature or Writing and Rhetoric			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall Spring	Mar 1 Nov 15	GRE-General

The Department of English offers a program leading to a Master of Arts in English with courses in literature, and writing and rhetoric.

Students may pursue either of the following programs of study:

- M.A. in English with a research concentration** – for students pursuing advanced English studies with an emphasis on research, criticism and methodology. Students may choose to focus their course work in either literature or writing and rhetoric. This program is suitable for students

considering a Ph.D. and requires 30 credit hours; ENGL 501; either ENGL 605 or 606; and a directed study resulting in a major paper with presentation.

- M.A. in English** – for students pursuing advanced English studies. Students may choose to focus their course work in either literature or writing and rhetoric. This program requires 30 credit hours; ENGL 501; either ENGL 605 or 606; and a directed study resulting in a major paper with presentation.

**Student learning outcomes**

- Develop advanced reading and writing skills
- Engage theoretical and/or textual/bibliographical scholarship
- Conduct original research and advance an original argument under faculty direction
- Explain and defend original research in a formal presentation or defense
- Survey the professional and academic work to which the degree leads

**Admission requirements**

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, the following requirements, established by the English Graduate Studies Committee, represent the minimum acceptable standards for admission:

- A baccalaureate degree in an area appropriate to the study of literature or writing
- A GPA that indicates the applicant can pursue successfully a graduate degree
- Three letters of recommendation from former instructors
- Completion of the GRE (Applicants for the literature track may, but are not required to, submit scores for the GRE subject test in literature.)

**Degree requirements**

The English program consists of a minimum of 30 semester credits. After these credits have been attained, students shall be examined over their courses and research as the Graduate Committee recommends. Students also may wish to present a thesis or project, credit for which shall be determined by the Master of Arts Committee.

**Media, Art, and Text, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

Media, Art, and Text, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 15	GRE-General
Special requirements: Additional materials to be submitted directly to Thom Didato. For specific instructions please see <a href="http://www.has.vcu.edu/eng/graduate/admission.htm">www.has.vcu.edu/eng/graduate/admission.htm</a>			

VCU's interdisciplinary doctoral program in media, art, and text is a joint endeavor of the Department of English, the School of the Arts and the School of Mass Communications. The program emphasizes the historical and theoretical foundations essential to the scholarly study of media, both old and new, broadly defined. It provides an intellectually stimulating environment that encourages students to work both collaboratively and independently, as well as across and between disciplines and media. Students maintain a base in their primary area of research, which is usually but not always the field in which they have done prior graduate work.

**Student learning outcomes**

- Students will develop advanced communication skills in writing, speaking and the use of multimedia.
- Students will demonstrate a broad knowledge of history and theory as the foundation for interdisciplinary work in a specialized facet of media, art and/or text.
- Students will develop competence in interdisciplinary and disciplinary research methods and responsible conduct of research.
- Students will develop specialized knowledge in relevant fields to support dissertation and subsequent research.



- Students will demonstrate the ability to conduct independent research and produce new, specialized knowledge within the broad parameters of media, art and text.
- Students will develop a strong basis for ongoing professional practice.

### Curriculum

The 42-hour curriculum comprises 36 hours of course work and a minimum of six hours of dissertation research. Course work includes a core of four required courses taken during the first two semesters by all incoming students. Three doctoral seminars provide a shared historical and theoretical foundation for the study of media, art, and text, while a workshop offers the opportunity to develop and expand professional and/or creative skills relevant to the student's career goals and research focus. In addition, all students will take a research methods course in a field relevant to their anticipated area of dissertation research.

Beyond the core, students select 21 hours of elective credits from course offerings in disciplines relevant to their research interests and career goals. The program offers a topics seminar focused on the history, theory or practice of media, art, and text. Independent study and internships are also available as electives. While enrollment in courses with the MATX prefix is guaranteed to matriculated MATX students, enrollment in other graduate courses is subject to the conditions established by individual units.

Together the core and the electives support the interdisciplinary work of the dissertation, which is an original scholarly examination of some aspect of media, art, and/or text. It may include work in media other than text. It is supervised by a committee consisting of four or five members drawn from disciplines relevant to the research topic.

#### Core courses (12 credits)

MATX 601 Texts and Textuality

MATX 602 History of Media, Art, and Text

MATX 603 History of Interdisciplinarity and Multimedia

MATX 604 Workshop

#### Methods course (3 credits)

#### Electives (21 credits)

#### Dissertation (6 credits minimum)

### Degree requirements

#### Credit requirements

Students are required to complete 36 credit hours in core and elective courses and a minimum of six credit hours of dissertation research. Core courses are offered through the MATX program. Additional elective courses are drawn from seminars offered through MATX and approved courses in participating units.

#### Grade requirements

To graduate, degree applicants must achieve an overall grade point average of 3.0 (B) on a 4.0 scale with a grade of C in no more than two courses. The GPA for graduation will be based on all graduate courses attempted after acceptance into the program.

#### Requirements for admission to candidacy

Before beginning formal dissertation research, students must complete all 36 hours of required course work, both stages of the e-portfolio and the requirements described below. Upon completion of these, the student will apply for degree candidacy.

#### Dissertation committee

The dissertation committee consists of the director (who must hold a Ph.D.) and three or four additional members whose scholarly knowledge and interests are relevant to the project. The committee must have at least one member from each of the sponsoring units (Department of English, School of the Arts, School of Mass Communications). All must be members of VCU's graduate faculty. Appropriate faculty from outside VCU may serve on committees (but not as director) with the approval of the MATX director and the graduate dean. It is the student's responsibility to assemble the committee, in consultation with the dissertation director. Committees will not be appointed by the program.

#### E-portfolio

Work on the e-portfolio will begin in MATX 604 in the spring of the first year. There are no technical specifications, and content will include, but is not limited

to, work done in the first two years in the program. It will take the form of a website and must demonstrate the technical skills (Web design, audio, video, etc.) relevant to the student's work on the dissertation and the career sought after VCU.

Submission is a two-stage process:

- Stage 1: May of the first year  
A three- to five-page design rationale for the portfolio site along with a mock-up or rough structure
- Stage 2: April of the second year  
A finished, live site accompanied by a five-page statement relating it to the student's work inside and outside the program and outlining how it uses media techniques to promote a specific professional and/or creative identity

Each submission is graded pass/fail and may be repeated once. A second failure results in automatic termination from the program.

### Competency

Candidates must demonstrate competency in a skill or technique relevant to the dissertation research or planned professional career. The dissertation committee approves and administers the competency portion. Graded pass/fail, the test may be repeated once.

### Bibliography exam

On a reading list of 20 to 30 sources relevant to or supportive of the dissertation topic. The dissertation committee approves and administers the bibliography exam. Graded pass/fail, the test may be repeated once.

### Dissertation prospectus and prospectus defense

The prospectus is a 15- to 20-page document that indicates the significance of the proposed research, gives a short review of relevant literature, states the research question, specifies the proposed methodology and indicates how the project lays the foundation for the anticipated academic or professional career. It also includes a work plan for the completion of research and writing, as well as a complete bibliography. The prospectus is defended orally before the dissertation committee, which may accept, reject or require revisions. The defense may be repeated once.

### Dissertation and dissertation defense

The dissertation is an original, interdisciplinary and scholarly examination of a topic relevant to an aspect of media, art, and/or text. It may include work in media other than text. Given the varied nature of doctoral research, there is no set time frame for completion of a dissertation. It is expected, however, that the dissertation will be completed about two years after attaining candidacy. The dissertation will be defended orally before the dissertation committee. Successful defense of the dissertation completes the requirements for the degree.

## Department of Forensic Science

The Department of Forensic Science offers programs leading to bachelor's and master's degrees.

The Bachelor of Science is for students who plan a career or graduate study in the forensic sciences. This specialization features a prescribed curriculum with academic emphasis in biology, chemistry and criminal justice. The B.S. in Forensic Science provides students with a solid education preparing them for effective professional careers in forensic laboratories, public and private, basic research laboratories, clinical laboratories, and/or to pursue graduate studies. Students also will be prepared to pursue advanced degrees in the physical sciences, biological sciences, forensic science, law, allied health and medicine, to name a few.

The Master of Science in Forensic Science prepares students for careers as forensic scientists in government and private laboratories. Students receive in-depth exposure to specializations within the field, including drug analysis, DNA analysis, trace evidence, criminalistics and legal issues.

For more information visit [www.has.vcu.edu/forensics](http://www.has.vcu.edu/forensics).

### Administration

**Michelle R. Peace**

Instructor and Interim Department Chair



**Tracey Dawson Cruz**

Associate Professor and Graduate Program Director

**Sarah J. Seashols**

Instructor and Undergraduate Program Director

[www.has.vcu.edu/forensics](http://www.has.vcu.edu/forensics)**Forensic science courses**

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to forensic science (FRSC) courses or the (FRSZ) laboratories.

**Forensic Science, Master of Science (M.S.)****Admission requirements summary**

Forensic Science, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall only	Mar 1	GRE
<b>Special requirements:</b> Undergraduate degree in natural sciences or degree with equivalent course work; completion of two semesters or equivalent of organic chemistry with two laboratories and two semesters or equivalent of general biology with laboratories; three letters of recommendation; GPA that exceeds 2.9 on 4.0 scale; prior graduate course work and/or relevant laboratory experience will be assessed where applicable.			

Most students entering the forensic science graduate program have a 3.0 GPA or above on undergraduate work and a combined score of 1,000 or more on the verbal and quantitative sections of the GRE.

Review of applications and offers of admission will begin January 15 and proceed until enrollment openings are filled. All application materials must be received by March 1. All applicants will be notified of a decision. There are no spring admissions in the program. The program may request a phone or in-person interview for admission. Upon acceptance of an offer of admission, a nonrefundable deposit is required.

The Master of Science in Forensic Science is one of only a few of its kind in the U.S. The objective of the Master of Science in Forensic Science program is to prepare students for careers as forensic scientists in government and private forensic laboratories. In addition, students will be prepared to pursue further graduate and/or professional academic degrees.

Core courses in the forensic science curriculum offer broad exposure to forensic laboratory equipment and instrumentation, as well as legal issues, expert testimony, forensic biology, forensic chemistry, trace evidence, physical evidence, professional ethics, quality assurance and current topics in research and development within the forensic sciences. Students entering the program will be required to select a concentration track by the end of their first semester. Tracks offered include forensic biology, forensic chemistry/drugs and toxicology, forensic chemistry/trace and forensic physical evidence. A strong emphasis is placed on laboratory course work, providing students with significant laboratory experience. Several of the laboratory courses are taught by practicing professional forensic scientists at the Virginia Division of Forensic Science Central Laboratory, which is nationally accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board.

The graduate program is a full-time, two-year program. Courses taken will vary depending on the track selected. Required and elective courses are offered at various times, day and night, throughout the week. The Master of Science in Forensic Science degree requires 42 semester hours of course work, including 27 semester hours of required core course work and 15 semester hours of specialized course work designed for each track (including electives). The required course work includes a directed research project, which is an extensive research experience conducted within a forensic laboratory setting. The curriculum offers four tracks: forensic biology, forensic chemistry/drugs and toxicology, forensic chemistry/trace, and forensic physical evidence.

**Student learning outcomes**

- Students will be able to apply basic principles and laboratory procedures of biology and chemistry to forensic science through focused study in concentration tracks (forensic biology, forensic chemistry/drugs and toxicology, forensic chemistry/trace and forensic physical evidence).

- Students will demonstrate capabilities, use, potential and limitations of forensic laboratory theory and techniques.
- Students will demonstrate the ability to perform (report and orally present) independent research in an area of forensic science.
- Students will demonstrate an understanding of legal procedure, rules of evidence, ethical and professional duties and responsibilities of the forensic scientist.

**General admission requirements**

Beyond the general Graduate School standards listed in the Graduate Studies at VCU section in this bulletin, admissions will be based on:

- Bachelor's degree in a natural science discipline, including forensic science, or a degree with equivalent work
- An undergraduate GPA that exceeds 2.9 on a 4.0 scale
- Completion of eight credits (two semesters or equivalent) of organic chemistry with laboratories and eight credits (two semesters or equivalent) of general biology with laboratories
- Assessment of prior graduate course work and/or relevant laboratory experience (where applicable)
- Three letters of recommendation pertaining specifically to the student's potential ability as a graduate student in forensic science

Most students entering the forensic science graduate program have a 3.0 GPA or above on undergraduate work and a combined score of 1,000 or more on the verbal and quantitative sections of the GRE.

Applicants are required to select a concentration track and will be considered only for that track. After entry into the program, students may request to change tracks by submitting a letter detailing the request and justification to the Forensic Science Graduate Committee. The committee will consider these requests on a case-by-case basis and only when the appropriate admissions requirements are met. If course work deficiencies are identified, students may be required to take additional foundational courses beyond those required for the concentration track. Students that wish to complete a second concentration track will be required to submit a formal request to the Forensic Science Graduate Committee; requests will be considered only for those individuals who have completed all admissions requirements for the second concentration track.

Review of applications and offers of admission will begin Jan. 15 and proceed until enrollment openings are filled. All application materials must be received by March 1. All applicants will be notified of a decision. There are no spring admissions in the program. The program may request a phone or in-person interview for admission. Upon acceptance of an offer of admission, a nonrefundable deposit is required.

**General degree requirements**

The following requirements are in addition to those described for graduate programs in the School of Graduate Studies and the College of Humanities and Sciences.

- Students must complete a minimum of 42 graduate semester credits as outlined in the accompanying list of core and track requirements, including electives.
- Maintenance of an ongoing, cumulative GPA of 3.0 or above is required while enrolled.
- Courses below the 500 level will not count toward degree requirements.
- Receipt of a grade of C in two or more courses will constitute an automatic dismissal from the graduate program in forensic science.
- Receipt of a grade of D or lower in any one course will constitute an automatic dismissal from the graduate program in forensic science.
- Continuous, full-time enrollment in the graduate program is required. Interruption in continuous enrollment or full-time status for any reason without a leave of absence approved by the Forensic Science Graduate Committee will require that students reapply to the program.
- Request for credit for graduate course work taken at other institutions must be submitted to the director of graduate studies in forensic science and will be considered on a case-by-case basis by the Forensic Science Graduate Committee.

- If course work deficiencies are identified, students may be required to take additional foundational courses beyond those listed below. These will not count toward the 42 required credits.

**Core requirements**

(27 credits)	Credits
FRSC 570 Forensic Science Seminar*+ (1 credit each)	3
FRSC 661 Analysis of Pattern Evidence (lecture/laboratory) or FRSC 662 Firearm and Toolmark Identification (lecture/laboratory)	3
FRSC 670 Forensic Evidence and Criminal Procedure	3
FRSC 671 Instrumentation in Forensic Chemistry*	3
FRSC 673 Forensic Microscopy*	2
FRSZ 673 Forensic Microscopy Laboratory*	1
FRSC 675 Forensic Serology and DNA Analysis*	2
FRSZ 675 Forensic Serology and DNA Analysis Laboratory*	1
FRSC 677 Professional Practices and Expert Testimony	3
FRSC 793 Directed Research in Forensic Science	3
STAT/BIOS 543 Statistical Methods I	3

**Electives**

(6-9 credits; see concentration track for requirements)

FRSC 520 Forensic Fire Investigation	3
FRSC 565 Scientific Crime Scene Investigation (lecture/laboratory)	3
FRSC 566 Advanced Crime Scene Investigation (lecture/laboratory)	3
FRSC/PHTX 644 Forensic Toxicology	3
FRSC 661 Analysis of Pattern Evidence (lecture/laboratory)	3
FRSC 662 Firearms and Toolmark Identification (lecture/laboratory)	3
FRSC 663 Forensic Medicine	3
FRSC 672 Advanced Drug Analysis (lecture/laboratory)	3
FRSC 676 Advanced Forensic DNA Analysis (lecture/laboratory)	3
FRSC/CRJS 680 Forensic Psychiatry	3
FRSC 681 Analysis of Fire Debris and Explosives (lecture/laboratory)	3
FRSC 682 Forensic Analysis of Paints and Polymers (lecture/laboratory)	3
FRSC 692 Forensic Science Independent Study	3
FRSC 693 Current Topics in Forensic Science	1
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	3
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	3
BIOL 530/HGEN 501 Human Genetics	3
BIOL/BNFO 540 Fundamentals of Molecular Genetics	3
BIOL 693 Current Topics in Biology (molecular biology)	1
CHEM 506 Introduction to Spectroscopic Methods in Organic Chemistry	1.5
CHEM 606 Advanced Spectroscopic Methods in Organic Chemistry	1.5
CHEM 630 Electroanalytical Chemistry	1.5
CHEM 631 Separation Science	1.5
CHEM 632 Chemometrics	1.5
CHEM 633 Mass Spectrometry	
CHEM 634 Surface Science	1.5
CHEM 635 Spectrochemical Analysis	1.5
CRJS 591 Topic Seminar (drugs and crime)	3
PHIS 501 Mammalian Physiology	5

PHTX 536 Principles of Pharmacology and Toxicology	5
PHTX 548 Drug Dependence	3

Electives for each concentration track must be selected with academic adviser. Other electives may be permitted with permission of adviser.

\* Courses required the **first fall** semester upon entry into the forensic science program.

+ This course is one credit; three credits total must be taken; one credit must be completed in each semester of the first full year of enrollment.

**Financial information**

Information and application forms for financial aid information may be secured from the VCU Office of Financial Aid, Harris Hall, 1st Floor, P.O. Box 843026, Richmond, VA 23284-3026, (804) 828-6669.

**Correspondence and information**

General program information can be obtained by accessing the program's Web site at [www.has.vcu.edu/forensics](http://www.has.vcu.edu/forensics). Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

**Forensic biology****Admission requirements**

In addition to the M.S. in Forensic Science general admission requirements, applicants to the forensic biology track should have a minimum of nine semester credits or equivalent of upper-level course work in the biological or biochemical sciences. This may include, but is not limited to, courses in cell biology, general biochemistry, genetics and/or molecular biology.

**Degree requirements**

The forensic biology track requires a minimum of 15 additional credit hours beyond the core course work for a total of 42 credit hours. See [General degree requirements](#) for the core curriculum.

In addition to the core curriculum, the following courses are required for the forensic biology track:

FRSC 565 Scientific Crime Scene Investigation (lecture/laboratory)	3
FRSC 676 Advanced Forensic DNA Analysis (lecture/laboratory)	3
BIOL/HGEN 516 Population Genetics	3
Electives*	6

\* Electives must be selected with academic adviser; at least one elective must be a graduate-level molecular biology-related course.

**Forensic chemistry/drugs and toxicology****Admission requirements**

In addition to the M.S. in Forensic Science general admission requirements, applicants to the forensic chemistry/drugs and toxicology track should have a minimum of nine semester credits or equivalent of upper-level chemistry or biochemistry course work. This may include, but is not limited to, courses in physical chemistry, instrumental analysis, quantitative analysis, pharmacology and/or general biochemistry.

**Degree requirements**

The forensic chemistry/drugs and toxicology track requires a minimum of 15 additional credit hours beyond the core course work for a total of 42 credit hours. See [General degree requirements](#) for the core curriculum.

In addition to the core curriculum, the following courses are required for the forensic chemistry/drugs and toxicology track:

FRSC/PHTX 644 Forensic Toxicology	3
FRSC 663 Forensic Medicine or FRSC 565 Scientific Crime Scene Investigation (lecture/laboratory)	3
FRSC 672 Advanced Drug Analysis (lecture/laboratory)	3
Electives*	6

\* Electives must be selected with academic adviser; at least one elective must be a graduate-level chemistry course.

## Forensic chemistry/trace

### Admission requirements

In addition to the M.S. in Forensic Science general admission requirements, applicants to the forensic chemistry/trace track should have a minimum of nine semester credits or equivalent of upper-level chemistry course work. This may include, but is not limited to, courses in physical chemistry, instrumental analysis, quantitative analysis and/or inorganic chemistry.

### Degree requirements

The forensic chemistry/trace track requires a minimum of 15 additional credit hours beyond the core course work for a total of 42 credit hours. See [General degree requirements](#) for the core curriculum.

In addition to the core curriculum, the following courses are required for the forensic chemistry/trace track:

FRSC 565 Scientific Crime Scene Investigation (lecture/laboratory)	3
FRSC 681 Analysis of Fire Debris and Explosives (lecture/laboratory)	3
FRSC 682 Forensic Analysis of Paints and Polymers (lectures/laboratory)	3
Electives*	6

\* Electives must be selected with academic adviser; at least one elective must be a graduate-level chemistry course.

## Forensic physical evidence

### Admission requirements

In addition to the M.S. in Forensic Science general admission requirements, applicants to the forensic physical evidence track should have a minimum of nine semester credits or equivalent of upper-level science course work. This may include, but is not limited to, courses in the areas of biology, chemistry, physics or biochemistry.

### Degree requirements

The forensic physical evidence track requires a minimum of 15 additional credit hours beyond the core course work for a total of 42 credit hours. See [General degree requirements](#) for the core curriculum.

In addition to the core curriculum, the following courses are required for the forensic physical evidence track:

FRSC 565 Scientific Crime Scene Investigation (lecture/laboratory)	3
FRSC 661 Analysis of Pattern Evidence (lecture/laboratory) or FRSC 662 Firearm and Toolmark Identification (lecture/laboratory)	3
Electives*	9

\*Electives must be selected with academic adviser.

## Department of Gender, Sexuality and Women's Studies

**Janet R. Hutchinson**

Professor and Department Chair

[www.has.vcu.edu/wst](http://www.has.vcu.edu/wst)

Gender, sexuality and women's studies provides a broad interpretation and view of diversity, including the interdisciplinary, cross-cultural examination of women's perspectives and experiences, masculinity and femininity, and heterosexuality and alternate sexualities as culturally constructed and socially experienced.

### Gender, sexuality and women's studies courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to gender, sexuality and women's studies ([GSWS](#)) courses.

### Gender, Sexuality and Women's Studies, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

#### Gender, Sexuality and Women's Studies, Certificate in (Post-baccalaureate graduate certificate)

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring	Jul 30 Nov 30	

#### Special requirements:

Fall entrance is required for those without prior course work in gender, sexuality or women's studies (graduate or undergraduate).

The certificate is composed of 15 credit hours of graduate-level course work and focuses on core concepts in gender, sexuality and women's studies. Nine of the credit hours are met with the following required core courses:

GSWS 501 Feminist Theory  
GSWS 602 Feminist Research Epistemology and Methods  
GSWS 620 Theorizing Sexuality

Students may choose the additional six credits in elective courses from department offerings (GSWS 622 Women and Public Policy, GSWS 624 Gender and Cultural Production and GSWS 691 Topics in Gender, Sexuality and Women's Studies) or may take courses in the subject matter from other graduate departments with permission of the chair.

#### Student learning outcomes

Upon completion of the graduate certificate students will:

- Have a firm grasp of the feminist paradigm, including feminist theories and the theoretical frameworks that inform the analysis of social, cultural, historical, economic and political forces that shape the experiences of women.
- Demonstrate a facility for problem-solving and critical thinking.
- Demonstrate a facility for intersectional analysis as it relates to diversity.
- Be grounded in and understand the linkages between the liberal arts and sciences including commonalities, differences and contributions of each to the field of gender, sexuality and women's studies.

## Department of History

The Department of History offers programs at the graduate and undergraduate levels, specializing in a multidimensional analysis of the human past. Faculty research interests vary among thematic, topical, national or chronological emphases. For more information regarding the department and its specialty areas, visit the Web at [www.has.vcu.edu/his](http://www.has.vcu.edu/his).

### Administration

811 and 813 South Cathedral Place  
P.O. Box 842001  
Richmond, Virginia 23284  
(804) 828-1635  
Fax: (804) 828-7085  
[www.has.vcu.edu/his](http://www.has.vcu.edu/his)

**John T. Kneebone**  
Associate Professor and Department Chair

**John C. Powers**  
Collateral Assistant Professor and Assistant to the Chair

**Nicholas Wolf**  
Collateral Assistant Professor and Undergraduate Adviser

**Timothy Thurber**  
Associate Professor and Director of Graduate Studies

**Kathleen Murphy**  
Administrative Specialist

## History courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to history ([HIST](#)) courses.

### History, Master of Arts (M.A.)

#### Admission requirements summary

History, Master of Arts (M.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall	Jul 1	GRE
	Spring	Dec 1	
	Summer	Apr 1	

The Master of Arts in History program allows maximum flexibility by permitting each student, in consultation with the department's director of graduate studies, to select those courses most appropriate to their interests, in order to develop competence in pursuit of his or her scholarly and professional objectives.

#### Student learning outcomes

- Students will develop the ability to understand the processes and methodologies historians use to study the past.
- Students will develop the ability to understand and think critically about scholarly works of history.
- Students will develop the ability to do historical research and present their interpretations in writing.
- Students will develop the ability to understand the myriad of forces that shape human experiences and critically weigh change and continuity over time.

## Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, the following requirements, established by the History Graduate Affairs Committee, represent the minimum acceptable standards for admission:

- 30 hours of undergraduate history courses, of which 18 should be at the upper-division level
- a GPA that is indicative of the applicant's ability to successfully pursue a graduate degree
- three recommendations from persons who are qualified to give information concerning the applicant's probable success in graduate school
- completion of the GRE
- submission of a 500-word written statement of intent, indicating why the applicant wishes to pursue a graduate degree in history

A personal interview is not required, but may be requested by either the applicant or the department's Graduate Affairs Committee.

## Degree requirements

The Master of Arts in History may be achieved through one of two options. The thesis option requires 30 semester credits, including six credits of HIST 698; or the non-thesis option requires 36 semester credits. Those in the non-thesis track must take a minimum of six semester credits in research-level courses, and also an oral comprehensive exam. All students in both tracks must take HIST 601 as a prerequisite or corequisite for all research courses; students entering in January should take HIST 601 the next time it is offered.

#### Elective courses

Students may take up to six semester credits of non-history electives from an approved list. The department's Graduate Affairs Committee maintains the list of approved courses, and students may use these courses for credit with the approval of the graduate director. In addition, students who wish to pursue specific areas of study may, with the approval of the graduate director, substitute other courses when appropriate, but in no case shall be able to count more than six semester hours of non-history courses.

## Department of Mathematics and Applied Mathematics

The Department of Mathematics and Applied Mathematics offers an undergraduate program leading to a Bachelor of Science in Mathematical Sciences with concentrations in applied mathematics, biomathematics, mathematics and secondary mathematics teacher preparation. The department administers the Master of Science in Mathematical Sciences concentrations in applied mathematics or mathematics and is involved in administering the Doctor of Philosophy in Systems Modeling and Analysis. The curricula of these programs are run jointly with additional concentrations offered by the [Department of Statistical Sciences and Operations Research](#).

## Administration

**Andrew M. Lewis**  
Associate Professor and Department Chair  
[www.math.vcu.edu](http://www.math.vcu.edu)

## Mathematics and applied mathematics courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Students registering for CMSC 201 or 255, MATH 131, 141, 151, 200, 211 or 300, or STAT 208 or 210 must place into these courses either from receiving VCU credit for stated prerequisite courses (for instance, MATH 151 is a stated prerequisite course for MATH 200) or from a satisfactory score (within a 39-month period immediately preceding the beginning of the course) on the VCU Mathematics Placement Test.

Follow this link to mathematics and applied mathematics ([MATH](#)) courses.

Use this link to see systems modeling and analysis ([SYSM](#)) courses.

### Mathematical Sciences, Master of Science (M.S.)

#### Admission requirements summary

Mathematical Sciences, Master of Science (M.S.)			
Indicate specialization:			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Mar 1	GRE-General
	Spring	Oct 1 Priority deadlines for funding consideration	
Special requirements:			
Contact director of graduate studies for specific admission requirements			

A Master of Science in Mathematical Sciences is offered jointly by the Department of Mathematics and Applied Mathematics and the Department of Statistical Sciences and Operations Research. The Master of Science in



Mathematical Sciences offers specializations in several possible areas, including applied mathematics, mathematics, operations research, statistics, discrete structures and others.

For additional information, visit the departmental Web sites at [www.math.vcu.edu](http://www.math.vcu.edu) or [www.stat.vcu.edu](http://www.stat.vcu.edu).

#### Student learning outcomes for concentrations in applied mathematics and mathematics

- Students will develop creative-thinking skills to apply to mathematical problems and proofs.
- Students will be able to analyze mathematical arguments and write their own arguments and proofs.
- Students will be able to read and interpret mathematical literature including technical articles within their chosen mathematical subfield.
- Students will be able to use technology, including specialized computational and graphics software, to test the validity of certain conjectures, to solve problems, to conduct mathematical experiments and do mathematical research.

#### Student learning outcomes for a concentration in operations research

- Students will demonstrate a comprehensive understanding of basic mathematical programming methods, stochastic models and decision analysis.
- Student will be able to obtain, analyze and interpret the data necessary to perform operations research projects.
- Students will be able to solve a wide variety of operations research problems using the software commonly used in industry.
- Students will know how to clearly and concisely present technical information in writing and through oral presentations.

#### Student learning outcomes for a concentration in statistics

- Students will demonstrate a comprehensive understanding of basic statistical concepts, probability and interference, general linear modeling, calculus and linear algebra.
- Students will know how to select appropriate samples and conduct appropriate experimental data collection methods.
- Students will be able to perform appropriate analysis of data, including knowledge of the assumptions associated with the procedures and how to determine the appropriate procedure to use.
- Students will be able to use statistical software packages to solve various problems.
- Students will know how to clearly and concisely present technical information in writing and through oral presentations.

### Admission requirements

In addition to the general requirements for admission to graduate programs listed in the [Graduate Studies at VCU](#) section and the [College of Humanities and Sciences](#) section of this bulletin, the following requirements represent the minimum acceptable standards for admission:

- Thirty credits in undergraduate mathematical sciences, computer science or related areas of which at least 18 semester credits must represent upper-level courses.
- Three letters of recommendation pertaining to the student's potential ability as a graduate student in mathematical sciences.
- General GRE scores required.

Provisional admission may be granted when deficiencies exist. These deficiencies must be removed by the end of the first year of residence, or its part-time equivalent, when the student's application will be re-examined. Courses that are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

### Degree requirements

The program offers maximum flexibility by allowing students, in consultation with their graduate committees, to design a course of study that will best develop

competence in those areas most relevant to their scholarly and professional objectives. This program consists of a minimum of 30 semester credits of which at least 15 must be at the 600 level.

Students may obtain a designation on their transcripts indicating that their graduate study has emphasized one of the following graduate concentrations by completing the requirements that are listed here for that concentration. A student who has not satisfied the requirements for one of these concentrations, but who has otherwise fulfilled all the requirements for a master's degree, will be awarded a degree of Master of Science in Mathematical Sciences without any specialization.

- applied mathematics
- mathematics
- operations research
- statistics

Note that the following courses cannot be applied to the credit requirements for the M.S. in Mathematical Sciences: STAT/SOCY 508, STAT/BIOS/EPID 543 and STAT/SOCY 608.

### Curricula

#### Mathematics and applied mathematics concentrations

Each student will select either the thesis or non-thesis option. If a student chooses the non-thesis option, they must complete a directed research project and a comprehensive examination. If a student elects to write a thesis, the student's adviser determines the number of credits completed in MATH 698.

##### Non-thesis option

Mathematical sciences (including both semesters of a 600-level sequence)	21
Mathematical sciences or allied field*	6-9
Research Seminar credits**	2-5
Directed research credits**	0-3
	<hr/> 30

##### Thesis option

Mathematical sciences (including both semesters of a 600-level sequence)	18
Mathematical sciences or allied field*	6-9
Thesis credits	3 or 6
Research seminar credits**	1-3
Directed research credits**	0-3
	<hr/> 30

\* Courses selected from an allied field must be approved by the department's Graduate Affairs Committee.

\*\* The student who chooses the non-thesis option may receive a maximum total of four credits for MATH 690 Research Seminar and MATH 697 Directed Research. The student who chooses the thesis option usually will not take directed research, but he or she is not prohibited from doing so. In the thesis option, a total of seven credits for thesis, research seminar and directed research is the maximum credit permitted.

#### Statistics and operations research concentrations

Each student will complete either a thesis or an applied project. A student who chooses the thesis option has a choice of writing a research thesis or an expository thesis. A research thesis is one that, in the opinion of the student's thesis adviser and thesis committee, contains significant original research. For this thesis, the student may count six credits of STAT 698 or OPER 698. Otherwise, a student may write an expository thesis. For this type of thesis, the student may count three credits of STAT 698 or OPER 698.

The student who elects the applied project must prepare a written report of the project and make an oral presentation; these students may count three credits of



STAT 696 or OPER 696. Students cannot receive credit for both STAT/OPER 696 and STAT/OPER 698.

Mathematical sciences (including both semesters of a 600-level sequence)	18
Mathematical sciences or allied field*	6-9
Thesis or applied project credits	3 or 6
Directed research credits**	0-3
	<hr/> 30

\* Courses selected from an allied field must be approved by the department's Graduate Affairs Committee.

\*\* A student can receive a maximum of six credits in thesis/applied project and directed research. Hence a student who writes a six-credit thesis cannot receive any directed research credits. A student who completes a three-credit thesis or the applied project, however, may receive up to three directed research credits.

### Applied mathematics concentration

#### Master of Science in Mathematical Sciences with a concentration in applied mathematics

MATH 532, 533\*; a six-credit sequence selected from MATH 632-634, 719, 721 and at least six credits selected from MATH 511, 512, 515, 516, 615, STAT 513-514. Also, at least one seminar and the thesis (if chosen) must concern topics of applied mathematics.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 15 credits of course work in the concentration.

### Mathematics concentration

#### Master of Science in Mathematical Sciences with a concentration in mathematics

MATH 507, 508\*; a six-credit sequence selected from 601-602, 603-604, 607-608, 711-712, and at least three credits from MATH 505, 509, 510, 521, 525 or any otherwise uncounted 600-level course for this concentration. Also, at least one seminar and the thesis (if chosen) must concern topics of pure mathematics.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 15 credits of course work in the concentration.

### Operations research concentration

#### Master of Science in Mathematical Sciences with a concentration in operations research

Core courses: All students must take OPER 527\*, 528\*, 613, 639, 643 and 690.

Additional courses: Students must also take six credit hours in OPER elective courses at the 600- or 700-level and an additional six credit hours that may be taken in operations research courses, courses in other disciplines (subject to the approval of the program director) or in OPER 698.

All students must pass two comprehensive examinations: Foundations of Operations Research, covering OPER 527 and OPER 528, and Methods of Operations Research, covering OPER 613, OPER 639 and OPER 643. All students will be given two attempts to pass each exam.

\*If a student previously received credit for one or both of these courses or their equivalents, then one or two other operations research courses must be taken in their place.

### Statistics concentration

#### Master of Science in Mathematical Sciences with a concentration in statistics

Core course work:

STAT 513, 514\*, 546, 642, 643 and 690

Additional course work:

At least six additional credit hours in courses selected from STAT 613, 623, 636, 645, 648, 649, 650, 675, 696 or 698, approved 691\*\*, 736, 742, 744, 745 and approved 791\*\*. The remaining six credit hours may be taken from the above list or in other disciplines with courses subject to the approval of the graduate director.

All students must pass two comprehensive examinations: statistical theory (covering STAT 513 and 514) and statistical application (covering STAT 546, 642 and 643). All students will be given two attempts to pass each exam.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 18 credits of course work in the concentration.

\*\* Use of STAT 691 and STAT 791 to meet this requirement must be approved by the Department of Statistical Sciences and Operations Research and the Graduate Affairs Committee of the department at the time the course is scheduled.

### Systems Modeling and Analysis, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Systems Modeling and Analysis, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Feb 1 Priority deadline for funding consideration	GRE-General
	Spring	Nov 1	
Special requirements: See admission requirements for specific details			

A Doctor of Philosophy in Systems Modeling and Analysis is offered jointly by the Department of Statistical Sciences and Operations Research and the Department of Mathematics and Applied Mathematics. The program focuses on the development of the mathematical and computational skills used to model and analyze real-world systems. Faculty and students will engage and collaborate to contribute to the knowledge base used in the fields of science, medicine, business and engineering. The continued development of operations research, statistics and applied mathematics is critical to scientific advancement in the 21st century. The doctoral curriculum enables students to expand the frontiers of knowledge through original, relevant research involving quantitative and qualitative complex systems derived from real, contemporary problems facing our world.

#### Student learning outcomes

- Students will gain a solid foundation in the theory and application of optimization, stochastic process, simulation, decision analysis and biomathematics, and will demonstrate a comprehensive understanding of these concepts.
- Students will learn to perform appropriate collection, modeling and analysis of the data using statistical methods.
- Students will demonstrate the ability to identify situations in which mathematics, operations research or statistics can be applied and model the situation.
- Students will demonstrate the ability to solve a wide variety of mathematics, operations research or statistics problems using the software commonly used in industry.

- Students will demonstrate the ability to write code using appropriate research programming environments to implement their research ideas.
- Students will learn how to interpret the analysis from mathematics, operations research or statistics models to draw meaningful conclusions about the systems they are studying.
- Students will gain the ability to successfully communicate research ideas through writing and presentations.
- Students will gain the skills needed to successfully participate in research under the guidance of faculty.

## Admission requirements

In addition to the [general requirements for admission](#) to graduate programs in the Graduate School (in the Graduate study section of this bulletin), there are a wide range of preparatory courses that will be needed for admission to this interdisciplinary program. To be admitted to the program, a student must have completed an undergraduate degree with at least 30 credits of undergraduate-level mathematics, including calculus I and II, multivariate calculus, linear algebra, probability and statistics.

In addition, the candidate must have either completed 18 credits in the following six graduate courses: optimization, stochastic simulation, mathematical statistics I and II, differential equations and real analysis, or they can be conditionally admitted to the program pending completion of these six courses with a grade of B or better in each course.

Students who received their previous degree more than three years prior to entering this program and who have not taken additional courses in mathematics, operations research or statistics in the last three years will be required to take an entrance exam covering the six graduate courses listed above.

## Degree requirements

The program requires a minimum of 57 graduate-level credits.

### Core courses

MATH 532 Ordinary Differential Equations I (3 credits)  
 OPER 639 Practical Optimization (3 credits)  
 STAT 546 Linear Models (3 credits)

### Seminar courses

SYSM 681 Systems Seminar I (1 credit)  
 SYSM 682 Systems Seminar II (1 credit)  
 SYSM 683 Systems Seminar III (1 credit)

### Systems research

Each student will be required to take SYSM 697 Systems Research (3 credits) with a faculty adviser before admission to candidacy.

### Electives

Students will take 24 credits in electives at the 600– and 700–level. At least 12 credits must be at the 700-level. A student must take electives in at least two of the three subject areas: mathematics, operations research and statistics. If a student chooses to take electives in two subject areas, they must have at least six credits in each. If a student chooses to take electives in three subject areas, they must take at least three credits in each. Electives will be determined based on the student's research interests and in consultation with the student's adviser and the doctoral program director.

### Admission to candidacy

Admission to candidacy is made by evaluation of a qualifying portfolio, including exams and project work from courses; writing samples from the research seminars (SYSM 681, 682 and 683); research products from systems research projects (SYSM 697); and statements from faculty advisers and instructors. The portfolio can be submitted after all course work has been completed, as well as any additional preparatory course work required at admission. The candidacy committee will evaluate the student's readiness to begin their dissertation work. Supplementary examination may be required by the committee.

### Dissertation proposal

After admission to candidacy and the completion of all course work, the student will prepare a written and oral proposal of the intended dissertation research area, including a complete literature review. A successful proposal must be completed at least nine months prior to the dissertation defense.

### Dissertation defense

The student must complete 18 credits in SYSM 798 Dissertation Research

resulting in a publishable dissertation and a successful oral defense. The student also must have submitted at least one paper to a refereed academic journal and prepared a second manuscript or given a conference presentation on the research prior to the defense.

## Department of Philosophy

### Anthony Ellis

Professor and Department Chair

[www.has.vcu.edu/phi/philos/phi\\_home.htm](http://www.has.vcu.edu/phi/philos/phi_home.htm)

Philosophy aims at a deeper understanding of matters that should most concern the human race. Philosophical questions crop up in science, religion, art, morality, politics, medicine and in everyday life. Students enrolled in philosophy are encouraged to think seriously about fundamental issues in all these domains and to formulate coherent and well-grounded points of view. Because of its extensive use of critical and analytical reasoning, philosophy equips students for careers in medicine, law, business and other fields that require careful thought and the clear expression of ideas.

The Department of Philosophy offers a Bachelor of Arts in Philosophy. The department offers courses for students in other programs, as well as for those majoring in philosophy or religious studies.

## Philosophy courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to philosophy ([PHIL](#)) courses.

## Department of Physics

The Department of Physics offers programs leading to the Bachelor of Science in Physics and the Master of Science in Physics and Applied Physics. The department also offers an accelerated B.S.-M.S. program that allows students in the baccalaureate program to take graduate courses that will count toward the M.S. in Physics degree.

## Administration

### Robert Gowdy

Associate Professor and Interim Department Chair

[www.has.vcu.edu/phy](http://www.has.vcu.edu/phy)

## Physics courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to [physics \(PHYS\)](#) courses or the [\(PHYZ\) laboratories](#).

## Nanoscience and Nanotechnology, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Nanoscience and Nanotechnology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall Spring	Mar 15 Nov 15	GRE

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, students are expected to have a bachelor's degree from an accredited college or university with 30 semester credits in chemistry, physics or engineering.

Admission on a provisional basis is possible for a student temporarily lacking the expected background. Acceptance is based upon undergraduate performance, satisfactory scores on the GRE and letters of recommendation.

Graduate students in the nanoscience and nanotechnology Ph.D. program may receive financial support via teaching or research assistantships or fellowships available from the “home” department. Application forms and instructions for applying to all graduate programs are available on the Graduate School website at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

#### Student learning outcomes

- Develop effective oral and written communication skills
- Demonstrate expertise (breadth and depth) in nanoscience
- Demonstrate appropriate ability to design and conduct experimental research
- Demonstrate ability to analyze data critically and to design experiments independently
- Develop competency in the responsible conduct of research

#### General degree requirements for graduate program

Students preparing for the Doctor of Philosophy degree in nanoscience and nanotechnology must earn a minimum of 72 credits consisting of core courses (9 credits), elective courses (9 credits), seminar (8 credits) and research (46 credits). The core courses include:

NANO 570 Nanoscale Physics (3 credits)  
 NANO 571 Nanoscale Chemistry (3 credits)  
 NANO 650, 651 Experimental Techniques in Nanoscience I, II (3 credits) **or**  
 NANO 660 Theoretical Studies of Nanostructures (3 credits)

The 9 elective credits shall be chosen from the following courses or other courses as approved by the program director.

CHEM 510 Atomic and Molecular Structure  
 CHEM 511 Chemical Thermodynamics and Kinetics  
 CHEM 580 Mechanical Properties of Plastics and Polymers  
 CHEM 591 Topics in Chemistry  
 CHEM 610 Applied Quantum Chemistry  
 CHEM 611 Molecular Spectroscopy  
 CHEM 612 Modern Statistical Mechanics: Fundamentals and Applications  
 CHEM 634 Surface Science  
 CHEM 635 Spectrochemical Analysis  
 CHEM 691 Topics in Chemistry  
 PHYS 550 Techniques in Material Research  
 PHYS 580 Quantum Mechanics  
 PHYS 591 Topics in Physics  
 PHYS 641 Solid State Physics  
 PHYS 661 Surface and Materials Physics  
 PHYS 691 Special Topics  
 CLSE 645 Biosensors and Bioelectronic Devices  
 CLSE 675 Polymers in Medicine  
 EGRB 613 Biomaterials  
 EGRE 525 Fundamentals of Photonics Engineering  
 EGRE 621 Spintronics  
 EGRE 623 Nanostructures and Nanodevices  
 EGRM 609 Advanced Characterization of Materials  
 ENGR 505 Characterization of Materials  
 ENGR 691 Special Topics in Engineering

The student will attend NANO 690 Research Seminar in Nanoscience and Nanotechnology throughout their degree program, receiving an S or U grade based on attendance and participation. The student will also give two seminar presentations, one on a literature topic and one on their dissertation research, which will be graded on the A/B/C/D/F scale.

Before admission to candidacy for the Ph.D. degree, students must have (a) completed at least 12 credits of their required course work; (b) successfully completed cumulative exams; and (c) successfully completed an oral candidacy examination based on a research proposal. The student will be required to complete a series of cumulative exams in the area of nanoscience and nanotechnology, which will normally occur during the student's second year in residence. After completion of the cumulative exams, an oral candidacy examination is then required to become a Ph.D. candidate. The oral examination, which is administered by the student's Graduate Dissertation Committee, is based upon a written proposal describing the proposed dissertation research project. It is intended to evaluate the adequacy of the proposed project, the student's level of

understanding of the project and the likelihood that the dissertation can be completed successfully.

The student must conduct a substantial original investigation under the supervision of his/her adviser and must submit to the Graduate Dissertation Committee a written dissertation reporting the results of the research and analyzing its significance in relation to existing scientific knowledge. The oral dissertation defense, conducted under direction of the Dissertation Committee, will examine the candidate's research, dissertation documentation and underlying fundamental knowledge encompassed by his/her research. Upon successful completion of the defense and the dissertation, the student may apply for graduation with the Ph.D. in Nanoscience and Nanotechnology. Full-time students should complete the degree requirements in four to five years.

### Physics and Applied Physics, Master of Science (M.S.)

#### Admission requirements summary

Physics and Applied Physics, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Aug 1 Dec 1	GRE

The Master of Science program offers traditional core physics courses and a variety of specialized electives emphasizing the department's strengths in theoretical and experimental physics. Research interests include theoretical and experimental condensed matter physics, general relativity and cosmology, and physics education. This degree is designed to be completed in two years (four semesters).

#### Student learning outcomes

- Students should achieve a broad knowledge of the principles of physics.
- Students should demonstrate analytical problem-solving skills.
- Students should demonstrate mastery of a topic at the frontier of physics research.

### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the College of Humanities and Sciences, students are expected to satisfy the following minimum standards for admission:

- Students must have a minimum of 30 semester credits in undergraduate physics or engineering, of which at least 18 semester credits must be at the upper level in physics.
- Satisfactory GRE scores.
- Provisional admission may be granted where deficiencies exist. These deficiencies must be removed by the end of the first year of residence or its part-time equivalent, when the student's application will be re-examined. Courses that are designed to remove deficiencies will not be accepted for credit toward the graduate degree.

### Degree requirements

Each student is required to take 30 semester credits of approved graduate courses (see M.S. plan of study) with at least 15 semester credits at the 600 level. PHYS 690 and PHYS 697 may not exceed 15 of the required 30 credit hours.

#### M.S. plan of study

Each student will choose a primary adviser during the first semester of study. At the end of the first semester, the student and adviser will propose an M.S. plan of study to the Graduate Curriculum Committee. This plan will include the graduate courses and research subject matter to fulfill the student's individual career goals.

Normally, each student will select courses for their individual M.S. plan of study from the list of graduate courses in physics. The courses selected will include no fewer than nine credits of traditional physics core courses, such as PHYS 576 and PHYS 580, to provide a solid foundation in fundamental physics. However, students also may select graduate courses in chemistry, mathematics, computer science and engineering, as well as from the schools of Medicine and Education, when such courses are consistent with the student's career goals.

The M.S. plan of study must be approved by the Physics Graduate Curriculum Committee. Courses taken outside this plan will not count toward the above general course requirements.

#### Thesis or non-thesis option

Each student must select either the thesis option or non-thesis option. Students selecting the thesis option must take at least nine credit hours of PHYS 697 Directed Research. No more than nine semester credits of Directed Research may be counted toward the 15 credit 600-level requirement.

Students selecting the non-thesis option may take no more than three hours of PHYS 697. A student who elects the non-thesis option must pass a written comprehensive exam. This exam will be administered by the Physics Graduate Curriculum Committee.

### Accelerated Bachelor of Science (B.S.) in Physics and Master of Science (M.S.) in Physics and Applied Physics

Students who are enrolled in the Bachelor of Science in Physics program may elect to take graduate courses that will count toward the Master of Science in Physics and Applied Physics degree. Up to six hours of graduate credit may be earned in this way without any special provision. In order to offer more than six hours of pre-admission graduate credit toward the graduate degree, a student must apply to the physics department Graduate Admission Committee for admission to the Accelerated B.S.-M.S. program. Persons applying for admission to this program (1) should submit a curricular plan for completing the bachelor's degree within two years or its part-time equivalent; (2) should indicate which graduate courses they intend to offer toward the physics master's degree; (3) should have a B average or better.

The M.S. Degree Completion Form should be accompanied by a memo from the Department of Physics Graduate Admission Committee to indicate which graduate courses were taken under the Accelerated B.S.-M.S. Program.

## Department of Psychology

In addition to the Bachelor of Science in Psychology, the Department of Psychology offers instruction in clinical, counseling, health and general psychology leading to the Doctor of Philosophy degree. Students in all doctoral degree programs are educated first as psychologists and then helped to develop competence in a more specialized area relevant to their scholarly and professional objectives. In addition, special training and experience in college teaching is available.

### Administration

**Wendy Klierer**

Professor and Department Chair

**Michael Southam-Gerow**

Associate Professor and Director of Graduate Studies

**Linda E. Zyzniewski**

Associate Professor and Director of Undergraduate Programs

**Dorothy E. Fillmore**

Associate Director of Academic Operations

[www.psychology.vcu.edu](http://www.psychology.vcu.edu)

### Admission requirements for doctoral programs

In addition to the general requirements for admission to the graduate programs in the Graduate School (in the [Graduate study](#) section of this bulletin), the following requirements represent the minimum acceptable standards for admission:

- Graduation with a bachelor's degree from an accredited college or university, but not necessarily with a major in psychology.
- 18 semester hours of undergraduate course work in psychology is the minimal, but not optimal, number of hours for an applicant to be considered for admission. Included must be each of the following courses: general psychology, statistics and experimental psychology. Exceptionally well-qualified applicants with less than a major in psychology, or applicants whose undergraduate work is considered outdated by the admissions committee,

may be advised to complete some additional undergraduate courses at the beginning of their graduate study program.

- An undergraduate record indicating superior academic potential.
- Satisfactory performance on the GRE.
- Three letters of recommendation from previous instructors.
- A personal interview may be required at the discretion of the department.

The number of students who can be admitted is limited by the facilities and staff available. All applicants will be notified of the decision made. The screening process may begin as early as Jan. 1. First offers of admission are made by April 1. By June 1, after other offers to alternates have been made and final acceptances by students have been received, admissions may be closed. See the admission requirements summary tables to view admission deadlines for each of the Ph.D. programs: [clinical psychology](#), [counseling psychology](#), general [psychology](#) (biopsychology, developmental psychology, social psychology) and [health psychology](#).

Applicants to the general psychology program should specify to which of the three divisions they are applying (i.e., biopsychology, developmental or social).

Transfer credits for graduate work at other institutions will be evaluated after the completion of nine semester hours in the department.

### Degree requirements for doctoral programs

The following requirements are in addition to those described for the graduate programs in the Graduate School (the [Graduate study](#) section of this bulletin) and the [College of Humanities and Sciences](#) section of this bulletin.

All students are required to complete a core curriculum of 15 credits (or its equivalent for students entering with a master's degree).

Students who receive grades of B or better in each of the department core courses are considered to have fulfilled the university requirements of a master's level comprehensive examination and will then officially be considered candidates for the Master of Science degree. Students who receive grades of C or lower in two or more department core courses will have failed the comprehensive examination and will be dismissed automatically from the program. Students who receive a grade of C or lower in one of the department core courses must either (a) satisfactorily complete a re-examination of the material covered in the course within one semester following the receipt of the grade (this re-examination is to be arranged and evaluated by the course instructor), or (b) repeat the course for credit the next time it is offered and receive a grade of B or better. Regardless of which of these approaches is chosen, the students will be given only one opportunity to demonstrate that they have mastered the course material. Students who either fail the re-examination or repeat the course and receive a grade of C or lower will have failed the comprehensive examination and will be dismissed from the program.

Additional courses and training experiences will be determined in consultation with and subject to the approval of the student's faculty adviser and graduate program committee.

Receipt of a grade of C or lower in two courses, or grades of C or lower in more than six credits of psychology courses, constitutes automatic dismissal of a student from the program.

All students are required to complete a master's thesis and to defend it successfully in an oral examination. Ideally, the thesis should be publishable as a piece of research and make a contribution to the field of psychology. Students who have previously completed a master's thesis in psychology at another university may have the thesis requirement waived if the thesis is accepted by their graduate program committee.

The residence requirement for the master's degree is 18 hours, nine in each of two consecutive semesters. Completion of the degree usually requires four semesters. At least six semester credits in PSYC 798 Master's Thesis must be completed, and no more than six can be counted toward the M.S. degree.

Students are obligated to request, in writing from their program committees, continuation of study beyond the master's degree and approval of their doctoral plan of study. Application from a student for continuation beyond the master's level will be evaluated by the appropriate program committee after completion of all requirements for the master's degree. The program committee reviews the student's request and approves or disapproves the request.

The student must pass a written preliminary examination to become a doctoral candidate. Students are required to complete this requirement prior to defense of



their dissertations and prior to leaving on internship for students in the clinical and counseling psychology programs.

With the consent of the program committee, doctoral students may design a minor consisting of courses in departments other than psychology or courses in an area of psychology other than the major.

Both the clinical and counseling psychology programs require completion of applied practica and a one-year predoctoral internship approved by the program committee. Research practica are required by all programs. Practicum credit will vary depending on the program. Internship will be one-half credit per semester.

A dissertation requiring the planning, completion and oral defense of an original research project is an integral part of the doctoral program. At least 12 semester credits in PSYC 898 Doctoral Dissertation must be completed, and no more than 12 can be counted toward the Ph.D. degree.

Completion of the entire program usually requires four to six years (including the internship year for students in the clinical and counseling programs). Candidates must complete all requirements for the Ph.D. degree within an eight-year period from the date of admission to the graduate program unless permission is granted for an extension. In some cases, specific programs and divisions may have requirements in addition to those stated here.

A more detailed description of the requirements for each of the graduate programs is included in the Department of Psychology's Graduate Student Handbook, which is provided to each incoming graduate student. Visit the website for more information: [www.psychology.vcu.edu](http://www.psychology.vcu.edu).

## Honors in psychology

Psychology majors in the baccalaureate program can earn honors in psychology. Any student is eligible to join the program if he or she declares a major in psychology, meets one of the three following entrance requirements and joins the Honors College.

Entering freshmen must have combined SAT scores of at least 1910 and rank in the top 15 percent of their high school graduating class and present an unweighted 3.5 GPA (4.0 scale). Students transferring to VCU must have a 3.5 cumulative GPA in at least 30 college semester hours of credit and have no more than 60 college semester hours of credit. Continuing VCU students must have a 3.5 cumulative GPA and have taken a minimum of 20, but no more than 60, credits at VCU.

Once admitted to the program, the honors student must fulfill three basic program requirements.

First, students must take a minimum of nine credits in psychology courses that are designated as honors sections. Three content courses, which will vary by semester, comprise these nine credits. PSYC 497, 498 and 499 may not be used to fulfill this requirement.

Next, honors students must enroll for a minimum of three credits in PSYC 494 Research Internship in Psychology, no later than the fall semester of their junior year.

Finally, all students must complete PSYC 497 Honors Seminar in the spring semester of their junior year and complete PSYC 498-499 Honors in Psychology in their senior year. Students complete an honors thesis during this three-semester sequence in which they propose, conduct and defend their research.

A student in the program will graduate with honors in psychology if he or she has completed all course requirements with a B or better, has maintained a GPA of 3.5, overall and in psychology, and has completed all other requirements for the Bachelor of Science in Psychology.

## Psychology advising (Psyugrad)

Students choose to major in psychology for many reasons. Most often they select the major from a combination of wanting to help other people and wanting to learn the scientific principles of behavior. Students in the program expect to receive career counseling and information on graduate and/or professional school training. The department has developed methods to meet these expectations.

Psyugrad has been established by the department to provide advising to undergraduate majors with educational and career planning. Students are shown how to choose appropriate electives for bachelor's-level careers in mental health services, personnel, management, corrections, rehabilitation, health services, education and laboratory research. In addition, all psychology majors are enrolled in PSYUGRAD, a Blackboard organization. PSYUGRAD provides up-to-date

information on research opportunities, jobs, special presentations and advising documents.

The adviser's role is to consult with students about various areas of professional opportunity, explain the role of graduate education and suggest general areas of study outside of the psychology department that might fit the student's interests and goals. Advisers are available on a walk-in basis at the department's Psyugrad Advising Office located at the White House, 806 W. Franklin Street, Room 107. Hours are posted on PSYUGRAD Blackboard.

PSYC 492 Independent Study and PSYC 494 Research Internship in Psychology are two of the upper-level electives specifically designed to enhance the psychology major's career pursuits for either employment or graduate-level training. Both of these courses provide opportunities for direct, practical experience with close supervision. Students may register for one, two or three credits following consultation with a faculty mentor who will supervise the experience. Students are expected to work three hours per week per credit hour for each of these experiences. They may be repeated for up to a total of 12 credits, but with no more than 6 credits of each.

The Department of Psychology offers service-learning courses (PSYC 307/LFSC 307 Community Solutions: Multiple Perspectives; PSYC 493 Fieldwork: Human Services) that involve participation in an organized community service experience. Through classroom discussions and written assignments, students relate theories and research presented in class with community experiences. Through service-learning courses, students:

- Gain an understanding and appreciation of the community and its diverse people
- Explore an area of study or a career option
- Critically reflect on their values and responsibilities as citizens

In many cases, a service-learning course will meet the urban experience general education requirement (refer to the Schedule of Classes).

## Psychology courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to psychology (PSYC) courses.

### Clinical Psychology, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Clinical Psychology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Dec 1	GRE-General
<b>Special requirements:</b> Applicants should apply to the Ph.D. program only, but will earn a master's degree during their course of study. Applicants who are interested in only the terminal master's degree are not admitted.			
Personal interview may be required for the clinical program.			

The Doctor of Philosophy in Clinical Psychology offered by Virginia Commonwealth University is accredited by the American Psychological Association. The program emphasizes the scientist-practitioner model and prepares students for research and service in professional psychology, including positions in university academic and medical school departments, counseling centers, mental health agencies and hospitals, physical health facilities, and other organizational settings. The clinical psychology program offers tracks in child and adolescent psychology and behavioral medicine psychology.

The Center for Psychological Services and Development, a campus-based community service agency operated by the department, provides training opportunities for graduate students in all departmental programs, including practicum and research training for graduate students in the clinical psychology program. A wide variety of other on- and off-campus practicum placements also are available.

The department maintains laboratory facilities for research in the areas of behavioral assessment, behavioral medicine, developmental, learning, behavioral pharmacology, psychophysiology, psychotherapy process, social perception, social



influence and group dynamics. Opportunities for field research also are available in a variety of settings. A collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Monroe Park Campus and in the Tompkins-McCaw Library on the MCV Campus.

Teaching assistantships, research assistantships and paid practicum placements are available.

#### Student learning outcomes

- Students will know, integrate and critically evaluate the literature in the breadth of scientific and clinical psychology.
- Students will be able to contribute to the scientific literature and disseminate the information from their contributions.
- Students will know and be able to apply the scientific, methodological and theoretical foundations of practice in the substantive areas of professional psychology.
- Students will know the available empirically supported treatment techniques and be competent in their use.
- Students will know how to operationalize treatment outcome goals and will consistently evaluate treatment outcome with all clinical cases.

## Curriculum requirements

### Department core

PSYC 617 Sensation and Perception or PSYC 629 Biological Basis of Behavior  
 PSYC 619 Learning and Cognition  
 PSYC 675 Ethical Principles of Psychology (two credits)  
 PSYC 680 Statistics in Psychological Research I  
 PSYC 681 Statistics in Psychological Research II

### Clinical psychology curriculum

Successful completion of clinical psychology program core courses (PSYC 616, 627, 643, 644, 645, 650, 652 or 667, and 662).

Successful completion of 22 credit hours of clinical practicum (PSYC 694) and one credit hour of research practicum (PSYC 690). Up to six credit hours may be waived depending on experience and ability.

Successful completion of one three-credit assessment elective (e.g., PSYC 626, 641, 645, 646, 647, 648, 649).

Successful completion of one three-credit therapy/intervention elective (e.g., PSYC 623, 624, 652, 653, 654, 656, 660, 666, 667, 668, 669, 670).

Students need to meet a social aspects of behavior breadth requirement by successfully completing PSYC 630, PSYC 633 or another graduate course in social aspects of behavior approved by the clinical faculty.

Students need to meet a cultural/individual diversity breadth requirement by successfully passing PSYC 677 or another graduate course in cultural/individual diversity approved by the clinical faculty.

Successful completion of three one-half credit consecutive semesters of an approved predoctoral internship, PSYC 696.

A minimum of 87.5 semester hours of approved courses beyond the baccalaureate degree.

Students should, if planning to practice clinical psychology, attend to the current licensure requirements of the state in which they plan to practice.

### Counseling Psychology, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Counseling Psychology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Dec 1	GRE-General
<b>Special requirements:</b> Please submit a curriculum vitae or resume.			
Applicants should apply to the Ph.D. program only, but will earn a master's degree during their course of study. Applicants who are interested in only the terminal master's degree are not admitted.			
The finalists for admission will be interviewed on site (or by phone) by counseling faculty.			

The Doctor of Philosophy in Counseling Psychology offered at Virginia Commonwealth University is accredited by the American Psychological Association. The program emphasizes the scientist-practitioner-leader model and prepares students for research and service in professional psychology, including positions in university academic and medical school departments, counseling centers, mental health agencies and hospitals, physical health facilities, and other organizational settings.

The counseling psychology program emphasizes the enhancement of life skills and personal competence. Typical subspecializations include disease prevention and health promotion, career and life planning, work with medical populations, college students, community outreach, interpersonal processes, group counseling, marriage and family counseling, multiculturalism and sport psychology.

The Center for Psychological Services and Development, a campus-based community service agency operated by the department, provides training opportunities for graduate students in all departmental programs, including practicum and research training for graduate students in the counseling psychology program. A wide variety of other on- and off-campus practicum placements also are available.

The department maintains laboratory facilities for research in the areas of behavioral assessment, behavioral medicine, developmental, learning, behavioral pharmacology, psychophysiology, psychotherapy process, social perception, social influence and group dynamics. Opportunities for field research also are available in a variety of settings. A collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Monroe Park Campus and in the Tompkins-McCaw Library on the MCV Campus.

Teaching assistantships, research assistantships and paid practicum placements are available.

#### Student learning outcomes

- Students will gain a thorough grounding in research strategies, theories and content of psychology and be provided a foundation for mastering the applied knowledge and skills of the profession.
- Students will demonstrate competence in the provision of cutting-edge empirically informed professional practice, an ability to communicate about clinical case material and will obtain and complete an APA-approved internship.
- Students will become knowledgeable about the principles of leadership and their own approach and orientation to becoming a leader in counseling psychology.
- Students must demonstrate that they have been exposed to a variety of cultures, have made an effort to become aware of their own culturally based values and attitudes and have developed skills as part of an ongoing commitment to increasing their multicultural competence.

## Curriculum requirements

### Department core

PSYC 617 Sensation and Perception or PSYC 629 Biological Basis of Behavior  
 PSYC 619 Learning and Cognition  
 PSYC 675 Ethical Principles of Psychology (two credits)  
 PSYC 680 Statistics in Psychological Research I  
 PSYC 681 Statistics in Psychological Research II

## Counseling psychology curriculum

Counseling psychology program core curriculum successfully completed (PSYC 608, 611, 616, 623, 625, 643, 644, 645, 651, 655, 660/or approved health psychology elective, 676, and 695).

Successful completion of 12 credit hours of counseling practicum (PSYC 693) and three credit hours of research practicum (PSYC 690).

Successful completion of other required courses, including PSYC 603 or 633 or other approved developmental course.

Students need to meet a social aspects of behavior breadth requirement by successfully completing PSYC 630 or another graduate course in social aspects of behavior approved by the counseling faculty.

Successful completion of three one-half credit consecutive semesters of an approved predoctoral internship (PSYC 696).

A minimum of 88 credit hours of approved courses beyond the baccalaureate degree. The current recommended curriculum totals 97.5 credit hours.

Counseling psychology program core curriculum successfully completed (PSYC 608, 611, 616, 623, 625, 643, 644, 645, 651, 655, 660/or approved health psychology elective, 676, and 695).

Students should, if planning to practice clinical psychology, attend to the current licensure requirements of the state in which they plan to practice.

## Health Psychology, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Health Psychology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 10	GRE-General
<b>Special requirements:</b> Applicants should apply to the Ph.D. program only, but will earn a master's degree during their course of study. Applicants who are interested in only the terminal master's degree are not admitted.			
Personal interview may be required.			

The Doctor of Philosophy in Health Psychology offered by Virginia Commonwealth University is an experimentally oriented program that is designed to train students to contribute to our knowledge of psychological contributions to health and illness via training in basic and clinical research. Students completing the Ph.D. in Health Psychology will not be eligible for licensure. Research in health psychology examines the causes and development of illness, methods to help individuals develop healthy lifestyles to promote good health and prevent illness, the treatment individuals receive for their medical problems, the effectiveness with which individuals cope with and reduce stress and pain, biopsychosocial connections with immune functioning, and factors in the recovery, rehabilitation and psychosocial adjustment of patients with serious health problems. Thus, graduates from the Ph.D. program in Health Psychology are prepared for work in a range of settings including colleges and universities, medical centers, research centers, nonprofit agencies, and local, state and national government.

The Center for Psychological Services and Development, a campus-based community service agency operated by the department, provides training opportunities for graduate students in all departmental programs. A wide variety of other on- and off-campus practicum placements also are available.

The department maintains laboratory facilities for research in the areas of behavioral assessment, behavioral medicine, developmental learning, behavioral pharmacology, psychophysiology, psychotherapy process, social perception, social influence and group dynamics. Opportunities for field research also are available in a variety of settings. A collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Monroe Park Campus and in the Tompkins-McCaw Library on the MCV Campus.

Teaching assistantships and research assistantships are available.

### Student learning outcomes

- Students will demonstrate their understanding of the models, theories and processes of health psychology; the biological, cognitive, attitudinal, social and cultural underpinnings of health psychology, primary and secondary

prevention of disease in a diverse range of communities, and community applications of health psychology.

- Students will use scientifically sound research methodologies, univariate and multivariate statistics, and ethical practices in their conduct of research.
- Students will adhere to the highest standards of ethics in their research, teaching and applied practice. Students will follow standards set by the university and the American Psychological Association.

## Curriculum requirements

### Department core

PSYC 617 Sensation and Perception or PSYC 629 Biological Basis of Behavior  
 PSYC 619 Learning and Cognition  
 PSYC 675 Ethical Principles of Psychology (two credits) or OVPR 601 Scientific Integrity (1 credit) or ALHP 708 Ethics and Health Care (3 credits)  
 PSYC 680 Statistics in Psychological Research I  
 PSYC 681 Statistics in Psychological Research II

### Health psychology curriculum

Department core curriculum above, six credits of PSYC 798 (master's thesis) and the following courses:

Required health courses: PSYC 660 Health Psychology, PSYC 691 Special Topics: Research Methods in Health Psychology (other methods courses may be substituted on approval of the faculty), PSYC 691 Special Topics: Culture, Ethnicity and Health, PSYC 691 Special Topics: Brown Bag Research Colloquium (required each semester in the program).

Required applied courses: PSYC 655 Community Interventions: Development, Implementation and Evaluation or PSYC 631 Evaluation Research: Psychological Perspectives.

Two (or more) of the following courses: PSYC 622 Physiological Correlates of Emotion, PSYC 635 Psychology of Health and Health Care in the Elderly, PSYC 666 Crisis Intervention: Theory, Research and Practice, PSYC 691 Special Topics: Child Health Psychology, PSYC 691 Special Topics: Cancer Prevention and Control, PSYC 691 Special Topics: Occupational Health, or PHTX 548 Drug Dependence.

Independent readings and research: At least three credits of either PSYC 671 or 690 are required for the master's degree. Both are required for the Ph.D. These courses may be repeated for credit.

A minimum of 40 credit hours are required to complete the master's degree. Consistent with the other Ph.D. programs offered in the Department of Psychology, the master's degree earned will be in general psychology. Students who do not enter the program with a master's degree earn a master's degree while working toward the Ph.D.

Additional course work for the Ph.D. includes: PSYC 603 Developmental Processes (or another approved course in developmental psychology), PSYC 630 Social Psychology (or another approved course in social psychology), PSYC 700 Grant Writing or ALHP 716 Grant Writing and Project Management in Health Related Sciences, and PSYC 795 Practicum in the Teaching of College Psychology.

Students must take at least one course in methodology or statistics in addition to the core requirements. Options include: BIOS 531, BIOS 571, BIOS 572, BIOS 647, EPID 606, HADM 762, MGMT 643, MGMT 691 Topics in Management (CARMA), NURS 772, PSYC 702, SOCY 605, STAT 644 or other relevant courses as approved by program faculty.

Dissertation credits: Students must declare 12 units of PSYC 898 but may take additional credit hours.

In addition to the above requirements, students, working with faculty, should choose additional elective courses as needed for their career goals. Possible elective courses include, but are not limited to: ALHP 701, GRTY 601, GRTY 627, HADM 615, HADM 626, IDAS 610, PHTX 614 or SBHD 605.

Students awarded the health psychology Ph.D. are required to complete a minimum of 80 semester hours, broken down as follows: department core courses, 13-15 credits; master's thesis, six credits; health psychology core courses, 17 credits; applied requirement, three credits; electives for master's, six credits; readings and research, three credits; research practicum, three credits; post-master's electives, 15 credits; and dissertation, 12 credits. Students also must pass a comprehensive examination.

## Psychology, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

#### Psychology, Doctor of Philosophy (Ph.D.)

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 10 (biopsychology, developmental psychology)  Dec 15 (social psychology)	GRE-General

#### Special requirements:

Applicants should apply to the Ph.D. program only, but will earn a master's degree during their course of study. Applicants who are interested in only the terminal master's degree are not admitted.

Please indicate your interest in biopsychology, developmental psychology or social psychology in your application.

Websites – biopsychology: [www.psychology.vcu.edu/biopsychology](http://www.psychology.vcu.edu/biopsychology); developmental psychology: [www.psychology.vcu.edu/developmental](http://www.psychology.vcu.edu/developmental); social psychology: [www.psychology.vcu.edu/social](http://www.psychology.vcu.edu/social)

Personal interview may be required.

The Doctor of Philosophy in Psychology offered by Virginia Commonwealth University prepares students for basic or applied research and includes three specialty areas: biopsychology, developmental and social psychology. The concentration in developmental trains students for work in either college or university academic departments or applied settings. Applied developmentalists work in a variety of settings and programs (violence prevention, community intervention, schools, family service agencies, nonprofit agencies, health care settings, disability agencies) with a variety of human populations (infants and young children, school-age children, adolescents, at-risk youth, incarcerated youth and adults, parents, older adults, persons with disabilities); they do not offer counseling/therapy services.

The Center for Psychological Services and Development, a campus-based community service agency operated by the department, provides training opportunities for graduate students in all departmental programs. A wide variety of other on- and off-campus practicum placements also are available.

The department maintains laboratory facilities for research in the areas of behavioral assessment, behavioral medicine, developmental, learning, behavioral pharmacology, psychophysiology, psychotherapy process, social perception, social influence and group dynamics. Opportunities for field research also are available in a variety of settings. A collection of current journals and books in psychology is housed in the James Branch Cabell Library on the Monroe Park Campus and in the Tompkins-McCaw Library on the MCV Campus.

Teaching assistantships, research assistantships and paid practicum placements are available.

#### Student learning outcomes for a concentration in biopsychology

- Students will acquire an accurate, comprehensive and up-to-date understanding of biopsychological concepts, principles and findings in the key domains of the field, including physiology, learning and memory, and current neuroscience principles.
- Students will develop the intellectual skills required to generate theories, do research, communicate ideas and information to others, evaluate conclusions statistically, locate the information needed for these intellectual pursuits and prepare scientific reports.
- Students will strive to expand the conceptual and empirical foundations of the field by conducting original research utilizing sound research methodologies. The results of these studies are presented at scientific conferences and published in scientific journals. This research is, in some cases, supported by extramural grants to biopsychology faculty or students.

#### Student learning outcomes for a concentration in developmental psychology

- Students will demonstrate their understanding of the models, theories and processes of developmental psychology; the biological, cognitive, social and cultural underpinnings of human development; processes of normative developmental change across the lifespan; atypical development as found in

psychopathology and disabilities; and community applications of developmental science.

- Students will use scientifically sound research methodologies, univariate and multivariate statistics, and ethical practices in their conduct of research.
- Students will adhere to the highest standards of ethics in their research, teaching and applied practice. Students will follow standards set by the university, the American Psychological Association and the Society for Research in Child Development.

#### Student learning outcomes for a concentration in social psychology

- Students will achieve competency in their knowledge of all basic areas of the field, including social psychology, psychobiology, learning/cognition and statistics/research.
- Students will have learned all the basic principles, theories and findings of the field of social psychology, including social thought and cognition, group processes and personality and individual differences.
- Students will have the intellectual skills required to generate theories, do research, communicate ideas and information to others, evaluate conclusions statistically, locate the information needed for these intellectual pursuits and prepare scientific reports.

## Curriculum requirements

### Department core

PSYC 617 Sensation and Perception or PSYC 629 Biological Basis of Behavior  
PSYC 619 Learning and Cognition  
PSYC 675 Ethical Principles of Psychology (two credits)  
PSYC 680 Statistics in Psychological Research I  
PSYC 681 Statistics in Psychological Research II

### Psychology curriculum

General psychology program doctoral courses completed (PSYC 638; three hours of 671 and/or 690; and 602 or 603 or 605).

Successful completion of one of the following specialized division curricula:

#### Biopsychology division curriculum

PSYC 629, PSYC 617, PSYC 639 and three courses from the following list: PSYC 612, PSYC 622, PHTX 632, PHIS 501, PHTX 633 and approved special topics courses (PSYC 691).

#### Developmental division curriculum

PSYC 603, PSYC 636, and PSYC 671 or PSYC 690

- Three or more “age-stage” courses chosen from: PSYC 691 Infant Behavior and Development, PSYC 691 Early and Middle Childhood, PSYC 628 Psychology of Adolescent Development and PSYC 602 Psychology of Aging.
- One course in diversity (most often PSYC 677 Minority Mental Health).
- Two applied courses chosen from PSYC 691 Program evaluation, PSYC 700 Grant-writing, PSYC 795 Teaching of Psychology, PSYC/GRTY 642 Practicum in Clinical Geropsychology, PSYC/IDDS 600 Interdisciplinary Studies in Developmental Disabilities: Teamwork, PSYC/IDDS 692 Directed Studies in Developmental Disabilities, IDDS 691 Special Topics or other courses approved by adviser.
- Students will take one or more courses in psychopathology or disabilities, choosing from PSYC/GRTY 615 Aging and Mental Disorders, PSYC 616 Psychopathology, PSYC 650 Advanced Child Psychopathology, PSYC/IDDS 600 Interdisciplinary studies in Developmental Disabilities: Teamwork, PSYC/IDDS 692 Directed Studies in Developmental Disabilities, IDDS 691 Special Topics or other relevant classes as approved by adviser.
- Additional training in methodology or statistics: one or more courses selected from NURS 772 Advanced Qualitative Research, MGMT 643 Applied Multivariate Methods, MGMT/PSYC 702 Causal Analysis for Organizational Studies, SOC 605 Survey Research Methods, HADM 762 Health Services Research Methods II, BIOS 544 or other relevant courses as approved by adviser.
- One graduate course in social psychology is required.

Students specializing in life span development and gerontology must take the following set of gerontology courses in addition to other developmental and core requirements — these courses will result in a Certificate in Aging from the Department of Gerontology:

GRTY 601 Biological and Physiological Aging  
 GRTY 602 Psychology of Aging  
 GRTY 605 Social Gerontology  
 GRTY 692 Independent Study (two credits)  
 Six additional hours of gerontology electives, chosen with adviser

#### Electives

Students, working with faculty, should choose additional courses as needed for their career goals; the number of electives taken is optional, and other courses not on this list may qualify, provided students work in consultation with faculty advisers:

GRTY 601 Biological and Physiological Aging  
 GRTY 602 Psychology of Aging  
 GRTY 605 Social Gerontology  
 HGEN 620 Introduction to Principles of Human Behavioral Genetics  
 PSYC 613 Cognitive Development  
 PSYC/GRTY 635 Psychology of Health and Health Care in the Elderly  
 PSYC 638 Evolution of Psychological Systems  
 PSYC 644 Individual Tests of Intelligence  
 PSYC 645 Assessment of Personality  
 PSYC/GRTY 641 Survey of Psychological Assessment and Treatment of the Older Adult  
 PSYC 655 Community Interventions: Development, Implementation and Evaluation  
 PSYC 659 Seminar in Consultation Psychology  
 PSYC 660 Health Psychology  
 PSYC 691 Parenting or other special topics courses as available

#### Social division curriculum

PSYC 630, PSYC 632 and three courses from the following list: PSYC 604, PSYC 610, PSYC 633 and PSYC 634.

- A minimum of 72 semester hours of approved courses beyond the baccalaureate degree

### Department of Statistical Sciences and Operations Research

The Department of Statistical Sciences and Operations Research offers programs leading to a Bachelor of Science in Mathematical Sciences, a Master of Science in Mathematical Sciences with a concentration in either operations research or statistics and a Doctor of Philosophy in Systems Modeling and Analysis. The curriculum of both programs is run jointly with the [Department of Mathematics and Applied Mathematics](#).

The department also offers a post-baccalaureate undergraduate certificate in statistics.

#### Administration

**D'Arcy P. Mays**

Associate Professor and Department Chair

[www.stat.vcu.edu](http://www.stat.vcu.edu)

#### Statistical sciences and operations research courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to statistical sciences ([STAT](#)) courses.

Use this link to see operations research ([OPER](#)) courses.

Use this link to see systems modeling and analysis ([SYSM](#)) courses.

### Mathematical Sciences, Master of Science (M.S.)

#### Admission requirements summary

Mathematical Sciences, Master of Science (M.S.)			
Indicate specialization:			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Mar 1	GRE-General
	Spring	Oct 1 Priority deadlines for funding consideration	
Special requirements:			
Contact director of graduate studies for specific admission requirements			

A Master of Science in Mathematical Sciences is offered jointly by the Department of Mathematics and Applied Mathematics and the Department of Statistical Sciences and Operations Research. The Master of Science in Mathematical Sciences offers specializations in several possible areas, including applied mathematics, mathematics, operations research, statistics, discrete structures and others.

For additional information, visit the departmental Web sites at [www.math.vcu.edu](http://www.math.vcu.edu) or [www.stat.vcu.edu](http://www.stat.vcu.edu).

#### Student learning outcomes for concentrations in applied mathematics and mathematics

- Students will develop creative-thinking skills to apply to mathematical problems and proofs.
- Students will be able to analyze mathematical arguments and write their own arguments and proofs.
- Students will be able to read and interpret mathematical literature including technical articles within their chosen mathematical subfield.
- Students will be able to use technology, including specialized computational and graphics software, to test the validity of certain conjectures, to solve problems, to conduct mathematical experiments and do mathematical research.

#### Student learning outcomes for a concentration in operations research

- Students will demonstrate a comprehensive understanding of basic mathematical programming methods, stochastic models and decision analysis.
- Student will be able to obtain, analyze and interpret the data necessary to perform operations research projects.
- Students will be able to solve a wide variety of operations research problems using the software commonly used in industry.
- Students will know how to clearly and concisely present technical information in writing and through oral presentations.

#### Student learning outcomes for a concentration in statistics

- Students will demonstrate a comprehensive understanding of basic statistical concepts, probability and inference, general linear modeling, calculus and linear algebra.
- Students will know how to select appropriate samples and conduct appropriate experimental data collection methods.
- Students will be able to perform appropriate analysis of data, including knowledge of the assumptions associated with the procedures and how to determine the appropriate procedure to use.
- Students will be able to use statistical software packages to solve various problems.

- Students will know how to clearly and concisely present technical information in writing and through oral presentations.

## Admission requirements

In addition to the general requirements for admission to graduate programs listed in the [Graduate Studies at VCU](#) section and the [College of Humanities and Sciences](#) section of this bulletin, the following requirements represent the minimum acceptable standards for admission:

- Thirty credits in undergraduate mathematical sciences, computer science or related areas of which at least 18 semester credits must represent upper-level courses.
- Three letters of recommendation pertaining to the student's potential ability as a graduate student in mathematical sciences.
- General GRE scores required.

Provisional admission may be granted when deficiencies exist. These deficiencies must be removed by the end of the first year of residence, or its part-time equivalent, when the student's application will be re-examined. Courses that are remedial or designed to remove deficiencies will not be accepted for credit toward the fulfillment of the course requirements for the master's degree.

## Degree requirements

The program offers maximum flexibility by allowing students, in consultation with their graduate committees, to design a course of study that will best develop competence in those areas most relevant to their scholarly and professional objectives. This program consists of a minimum of 30 semester credits of which at least 15 must be at the 600 level.

Students may obtain a designation on their transcripts indicating that their graduate study has emphasized one of the following graduate concentrations by completing the requirements that are listed here for that concentration. A student who has not satisfied the requirements for one of these concentrations, but who has otherwise fulfilled all the requirements for a master's degree, will be awarded a degree of Master of Science in Mathematical Sciences without any specialization.

- applied mathematics
- mathematics
- operations research
- statistics

Note that the following courses cannot be applied to the credit requirements for the M.S. in Mathematical Sciences: STAT/SOCY 508, STAT/BIOS/EPID 543 and STAT/SOCY 608.

## Curricula

### Mathematics and applied mathematics concentrations

Each student will select either the thesis or non-thesis option. If a student chooses the non-thesis option, they must complete a directed research project and a comprehensive examination. If a student elects to write a thesis, the student's adviser determines the number of credits completed in MATH 698.

#### Non-thesis option

Mathematical sciences (including both semesters of a 600-level sequence)	21
Mathematical sciences or allied field*	6-9
Research Seminar credits**	2-5
Directed research credits**	0-3
	<hr/> 30

#### Thesis option

Mathematical sciences (including both semesters of a 600-level sequence)	18
Mathematical sciences or allied field*	6-9
Thesis credits	3 or 6
Research seminar credits**	1-3

Directed research credits**	0-3
	<hr/> 30

\* Courses selected from an allied field must be approved by the department's Graduate Affairs Committee.

\*\* The student who chooses the non-thesis option may receive a maximum total of four credits for MATH 690 Research Seminar and MATH 697 Directed Research. The student who chooses the thesis option usually will not take directed research, but he or she is not prohibited from doing so. In the thesis option, a total of seven credits for thesis, research seminar and directed research is the maximum credit permitted.

### Statistics and operations research concentrations

Each student will complete either a thesis or an applied project. A student who chooses the thesis option has a choice of writing a research thesis or an expository thesis. A research thesis is one that, in the opinion of the student's thesis adviser and thesis committee, contains significant original research. For this thesis, the student may count six credits of STAT 698 or OPER 698. Otherwise, a student may write an expository thesis. For this type of thesis, the student may count three credits of STAT 698 or OPER 698.

The student who elects the applied project must prepare a written report of the project and make an oral presentation; these students may count three credits of STAT 696 or OPER 696. Students cannot receive credit for both STAT/OPER 696 and STAT/OPER 698.

Mathematical sciences (including both semesters of a 600-level sequence)	18
Mathematical sciences or allied field*	6-9
Thesis or applied project credits	3 or 6
Directed research credits**	0-3
	<hr/> 30

\* Courses selected from an allied field must be approved by the department's Graduate Affairs Committee.

\*\* A student can receive a maximum of six credits in thesis/applied project and directed research. Hence a student who writes a six-credit thesis cannot receive any directed research credits. A student who completes a three-credit thesis or the applied project, however, may receive up to three directed research credits.

## Applied mathematics concentration

### Master of Science in Mathematical Sciences with a concentration in applied mathematics

MATH 532, 533\*; a six-credit sequence selected from MATH 632-634, 719, 721 and at least six credits selected from MATH 511, 512, 515, 516, 615, STAT 513-514. Also, at least one seminar and the thesis (if chosen) must concern topics of applied mathematics.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 15 credits of course work in the concentration.

## Mathematics concentration

### Master of Science in Mathematical Sciences with a concentration in mathematics

MATH 507, 508\*; a six-credit sequence selected from 601-602, 603-604, 607-608, 711-712, and at least three credits from MATH 505, 509, 510, 521, 525 or any otherwise uncounted 600-level course for this concentration. Also, at



least one seminar and the thesis (if chosen) must concern topics of pure mathematics.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 15 credits of course work in the concentration.

### Operations research concentration

#### Master of Science in Mathematical Sciences with a concentration in operations research

Core courses: All students must take OPER 527\*, 528\*, 613, 639, 643 and 690.

Additional courses: Students must also take six credit hours in OPER elective courses at the 600- or 700-level and an additional six credit hours that may be taken in operations research courses, courses in other disciplines (subject to the approval of the program director) or in OPER 698.

All students must pass two comprehensive examinations: Foundations of Operations Research, covering OPER 527 and OPER 528, and Methods of Operations Research, covering OPER 613, OPER 639 and OPER 643. All students will be given two attempts to pass each exam.

\*If a student previously received credit for one or both of these courses or their equivalents, then one or two other operations research courses must be taken in their place.

### Statistics concentration

#### Master of Science in Mathematical Sciences with a concentration in statistics

Core course work:

STAT 513, 514\*, 546, 642, 643 and 690

Additional course work:

At least six additional credit hours in courses selected from STAT 613, 623, 636, 645, 648, 649, 650, 675, 696 or 698, approved 691\*\*, 736, 742, 744, 745 and approved 791\*\*. The remaining six credit hours may be taken from the above list or in other disciplines with courses subject to the approval of the graduate director.

All students must pass two comprehensive examinations: statistical theory (covering STAT 513 and 514) and statistical application (covering STAT 546, 642 and 643). All students will be given two attempts to pass each exam.

\* If a student previously received credit for one or both of these courses or their equivalent, then one or two of the other courses mentioned for this concentration must be taken as substitute(s) to satisfy the minimum requirement of 18 credits of course work in the concentration.

\*\* Use of STAT 691 and STAT 791 to meet this requirement must be approved by the Department of Statistical Sciences and Operations Research and the Graduate Affairs Committee of the department at the time the course is scheduled.

### Systems Modeling and Analysis, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Systems Modeling and Analysis, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Feb 1 Priority deadline for funding consideration	GRE-General
	Spring	Nov 1	
Special requirements: See admission requirements for specific details			

A Doctor of Philosophy in Systems Modeling and Analysis is offered jointly by the Department of Statistical Sciences and Operations Research and the Department of Mathematics and Applied Mathematics. The program focuses on

the development of the mathematical and computational skills used to model and analyze real-world systems. Faculty and students will engage and collaborate to contribute to the knowledge base used in the fields of science, medicine, business and engineering. The continued development of operations research, statistics and applied mathematics is critical to scientific advancement in the 21st century. The doctoral curriculum enables students to expand the frontiers of knowledge through original, relevant research involving quantitative and qualitative complex systems derived from real, contemporary problems facing our world.

#### Student learning outcomes

- Students will gain a solid foundation in the theory and application of optimization, stochastic process, simulation, decision analysis and biomathematics, and will demonstrate a comprehensive understanding of these concepts.
- Students will learn to perform appropriate collection, modeling and analysis of the data using statistical methods.
- Students will demonstrate the ability to identify situations in which mathematics, operations research or statistics can be applied and model the situation.
- Students will demonstrate the ability to solve a wide variety of mathematics, operations research or statistics problems using the software commonly used in industry.
- Students will demonstrate the ability to write code using appropriate research programming environments to implement their research ideas.
- Students will learn how to interpret the analysis from mathematics, operations research or statistics models to draw meaningful conclusions about the systems they are studying.
- Students will gain the ability to successfully communicate research ideas through writing and presentations.
- Students will gain the skills needed to successfully participate in research under the guidance of faculty.

### Admission requirements

In addition to the [general requirements for admission](#) to graduate programs in the Graduate School (in the Graduate study section of this bulletin), there are a wide range of preparatory courses that will be needed for admission to this interdisciplinary program. To be admitted to the program, a student must have completed an undergraduate degree with at least 30 credits of undergraduate-level mathematics, including calculus I and II, multivariate calculus, linear algebra, probability and statistics.

In addition, the candidate must have either completed 18 credits in the following six graduate courses: optimization, stochastic simulation, mathematical statistics I and II, differential equations and real analysis, or they can be conditionally admitted to the program pending completion of these six courses with a grade of B or better in each course.

Students who received their previous degree more than three years prior to entering this program and who have not taken additional courses in mathematics, operations research or statistics in the last three years will be required to take an entrance exam covering the six graduate courses listed above.

### Degree requirements

The program requires a minimum of 57 graduate-level credits.

#### Core courses

MATH 532 Ordinary Differential Equations I (3 credits)

OPER 639 Practical Optimization (3 credits)

STAT 546 Linear Models (3 credits)

#### Seminar courses

SYSM 681 Systems Seminar I (1 credit)

SYSM 682 Systems Seminar II (1 credit)

SYSM 683 Systems Seminar III (1 credit)

#### Systems research

Each student will be required to take SYSM 697 Systems Research (3 credits) with a faculty adviser before admission to candidacy.

#### Electives

Students will take 24 credits in electives at the 600- and 700-level. At least 12

credits must be at the 700-level. A student must take electives in at least two of the three subject areas: mathematics, operations research and statistics. If a student chooses to take electives in two subject areas, they must have at least six credits in each. If a student chooses to take electives in three subject areas, they must take at least three credits in each. Electives will be determined based on the student's research interests and in consultation with the student's adviser and the doctoral program director.

**Admission to candidacy**

Admission to candidacy is made by evaluation of a qualifying portfolio, including exams and project work from courses; writing samples from the research seminars (SYSM 681, 682 and 683); research products from systems research projects (SYSM 697); and statements from faculty advisers and instructors. The portfolio can be submitted after all course work has been completed, as well as any additional preparatory course work required at admission. The candidacy committee will evaluate the student's readiness to begin their dissertation work. Supplementary examination may be required by the committee.

**Dissertation proposal**

After admission to candidacy and the completion of all course work, the student will prepare a written and oral proposal of the intended dissertation research area, including a complete literature review. A successful proposal must be completed at least nine months prior to the dissertation defense.

**Dissertation defense**

The student must complete 18 credits in SYSM 798 Dissertation Research resulting in a publishable dissertation and a successful oral defense. The student also must have submitted at least one paper to a refereed academic journal and prepared a second manuscript or given a conference presentation on the research prior to the defense.



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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Allied Health Professions**

The School of Allied Health Professions was established on Jan. 1, 1969, to provide an administrative structure for existing educational programs in allied health disciplines and to direct the development of new programs in response to the growing need for allied health manpower. At the outset, the school incorporated existing educational programs for hospital administration, medical technology, physical therapy and radiologic technology and X-ray technicians.

In the years since its establishment, the school has grown significantly — developing unique, cutting-edge curricula and degree offerings in both traditional and nontraditional formats — to meet the increasing demand for allied health teachers, researchers and practitioners. Considered a leader in distance education, VCU's School of Allied Health Professions offers the only interdisciplinary, Internet-based doctoral program in allied health in the country: the Ph.D. in Health Related Sciences. The school currently incorporates nine departments and offers programs at the baccalaureate, certificate, master's, doctoral and professional levels.

## Administration

1200 East Broad Street  
P.O. Box 980233  
Richmond, Virginia 23298-0233  
(804) 828-7247  
Fax: (804) 828-8656  
[www.sahp.vcu.edu](http://www.sahp.vcu.edu)

**Cecil B. Drain**  
Dean

**Alexander F. Tartaglia**  
Associate Dean

**J. James Cotter**  
Assistant Dean

**Brian T. McMahon**  
Assistant Dean for Research

**Debra A. Ropelewski**  
Assistant Dean for Fiscal Affairs

**Jessica F. Gurganus**  
Assistant Dean for Advancement

**Jeffrey R. Lodge**  
Director of Information Systems

**Monica White**  
Director of Student Services

## Philosophy

The faculty of the school is committed to offering, through the establishment and maintenance of rigorous standards of excellence, educational programs that will prepare students for professional careers in the allied health disciplines. Development of professional attitudes, emotional maturity and ethical behavior of students is a vital component of the educational process. It is essential that students gain a deep respect for the dignity of human beings and the inherent rights of patients and others who receive services. The programs are designed to include not only the development of skills to assure excellence in quality of health care, but also factual knowledge and experiences that will provide the basis for continuing intellectual and professional growth.

Community services of the school and faculty include continuing education, consultative resources and participation in all pertinent areas of health care. An integral part of these efforts is to stimulate and sponsor research activities in the allied health disciplines represented within the school and to encourage interdisciplinary research.

## Accreditation

The School of Allied Health Professions is an institutional member of the American Society of Allied Health Professions and the Virginia Association of Allied Health Professions. All of its programs are approved or accredited by the appropriate national professional or educational organizations.

### Clinical laboratory sciences (bachelor's degree)

National Accrediting Agency for Clinical Laboratory Sciences  
5600 N. River Road, Suite 720, Rosemont, IL 60018-5519; (847) 939-3597, (773)

714-8880 or (773) 714-8886 (fax); [infor@naaccls.org](mailto:infor@naaccls.org); [www.naaccls.org](http://www.naaccls.org). Upon graduation the student is eligible to take the national examination for MLS given by the Board of Certification of the American Society for Clinical Pathology.

### Health administration (master's and executive master's degrees)

Commission on Accreditation of Healthcare Management Education

### Nuclear medicine technology (bachelor's degree in Clinical Radiation Sciences)

Joint Review Committee on Educational Programs in Nuclear Medicine Technology

### Nurse anesthesia (master's, doctorate)

Council on Accreditation of Nurse Anesthesia Educational Programs (COA, 222 South Prospect Avenue, Park Ridge, Illinois, 847-692-7050).

The COA is recognized by the U.S. Department of Education and the Council on Higher Education Accreditation to accredit programs of nurse anesthesia at the master's, post-master's and doctoral levels.

Graduates of the master's program are eligible to take the examination for certification conducted by the Council on Certification of Nurse Anesthetists.

### Occupational therapy (master's degree)

Accreditation Council for Occupational Therapy Education

### Patient counseling (certificate)

Association for Clinical Pastoral Education

### Physical therapy (D.P.T.)

Commission on Accreditation in Physical Therapy Education, American Physical Therapy Association

### Radiation therapy technology (bachelor's degree in Clinical Radiation Sciences)

Joint Review Committee on Education in Radiologic Technology

### Radiography (bachelor's degree in Clinical Radiation Sciences)

Joint Review Committee on Education in Radiologic Technology

### Rehabilitation counseling (master's degree)

Council on Rehabilitation Education

## Programs

Both entry- and advanced-level undergraduate, graduate, professional and certificate programs are offered by the School of Allied Health Professions. University and accreditation requirements for the individual programs guide the establishment of general admission prerequisites and course and degree requirements. Regulations and procedures for each program are outlined in these bulletins and are intended to ensure the selection of applicants whose motivation, ability, character and health status qualify them to pursue their program of study successfully.

Programs currently offered by this school and the degrees conferred on their graduates are:

### School of Allied Health Professions

- Ph.D. in Health Related Sciences

### Department of Clinical Laboratory Sciences

- Bachelor of Science
- Master of Science

### Department of Gerontology

- Post-baccalaureate graduate certificate in aging studies
- Post-baccalaureate graduate certificate in aging studies and Master of Social Work offered jointly with the VCU School of Social Work)
- Master of Science

### Department of Health Administration

- Master of Health Administration
- Master of Health Administration and Doctor of Medicine (offered jointly with the VCU School of Medicine)
- Master of Health Administration and Juris Doctor (offered jointly by the T. C. Williams School of Law at the University of Richmond and the Washington and Lee University School of Law)



- Master of Science in Health Administration (Professional M.S.H.A. Program – Online)
- Ph.D. in Health Services Organization and Research

#### Department of Nurse Anesthesia

- Doctor of Nurse Anesthesia Practice
- Master of Science in Nurse Anesthesia

#### Department of Occupational Therapy

- Master of Science in Occupational Therapy
- Master of Science
- Occupational Therapy Doctorate

#### Program in Patient Counseling

- Post-baccalaureate graduate certificate in patient counseling
- Master of Science
- Master of Science and Master of Divinity (offered jointly by the School of Theology at Virginia Union University and the Baptist Theological Seminary)

#### Department of Physical Therapy

- Doctor of Physical Therapy
- Tracks in physical therapy in the Ph.D. programs offered in Anatomy and Neurobiology or Physiology in the VCU School of Medicine
- Ph.D. in Rehabilitation and Movement Science

#### Department of Radiation Sciences

- Bachelor of Science

#### Department of Rehabilitation Counseling

- Master of Science
- Master of Science in Rehabilitation Counseling and certificate in aging studies
- Post-baccalaureate graduate certificate in professional counseling

## Licensure/certification

Graduates of most of the programs offered in the School of Allied Health Professions are required or eligible to take national and/or state certification or licensure examinations. Requirements of licensing and certifying agencies vary. Some licensure and certification agencies consider individuals convicted of a felony ineligible for licensure or certification. For information, prospective students should contact the licensure or certification agency for the specific allied health discipline.

## Attendance regulations

The faculty considers attendance at lectures, laboratories and other functions a requisite to the successful acquisition of the knowledge and skills required of the professional. Hence, the faculty cannot condone absence without good reason from any regularly scheduled educational experience. At the beginning of each course, instructors relate to their classes the policy of the department concerning the attendance regulations for that semester. The nature of make-up work in the event of absence will be the prerogative of the instructor.

## Student performance and behavior

The goals and objectives of the School of Allied Health Professions and its component departments and programs relate to the education of persons preparing for professional careers in the allied health disciplines. An integral requisite of students and practitioners is an undeviating acceptance of a professional attitude and pride that will motivate them to adhere to a code of professional ethics and to develop fully their competencies for practice.

The suitability of student performance and behavior relating to these professions and to the consumers of health care is a paramount concern of the administration and faculty of this school. To assure a quality of educational and clinical preparation for its graduates, the following statement is promulgated:

If, in the judgment of the faculty and administration of the School of Allied Health Professions, a student is not considered suitable for emotional, professional or related reasons, the student's academic status may be appropriately altered.

If any questions arise regarding the standards of performance or behavior, it is the responsibility of students to apprise themselves of acceptable character and conduct requirements prior to matriculation in the designated department or program.

#### Standards of professional behavior

These standards describe behaviors expected from the faculty and students of the School of Allied Health Professions. They are in addition to those standards of behavior and ethical conduct required by the school's departments and professional organizations. They are supplemental to the university statement regarding conduct in the classroom.

- Recognize one's position as a role model of your profession for other members of the health care team.
- Carry out academic, clinical and research responsibilities in a conscientious manner, making every effort to exceed expectations and demonstrating a commitment to lifelong learning.
- Treat patients, faculty and students with respect, demonstrating sensitivity to diversity regarding ethnicity, culture, age, gender, disability, social and economic status, sexual orientation, etc., without discrimination, bias or harassment.
- Maintain patient/client confidentiality.
- Respect the privacy of all members of the campus community and avoid promoting gossip and rumor.
- Interact with all members of the health care team in a collaborative and supportive fashion, with respect and recognition of the roles played by each individual.
- Provide help or seek assistance for any member of the health care team who is recognized as impaired in his/her ability to perform his/her professional obligations.
- Be mindful of the limits of one's knowledge and abilities and seek help from others whenever appropriate.
- Abide by accepted ethical standards in the scholarship, research and practice of patient/client care.
- Abide by the guidelines of the VCU Honor System.

## Financial aid

Financial aid is available for all students meeting the criteria for financial assistance. For details of the programs available contact the Financial Aid Office, P.O. Box 980244, Richmond, VA 23298-0244 or telephone (804) 828-9800.

The school and departments also offer financial awards, honors and scholarships. Details may be found on the school's and individual departments' Web sites at [www.sahp.vcu.edu](http://www.sahp.vcu.edu).

### Health Related Sciences, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

##### Health Related Sciences, Doctor of Philosophy (Ph.D.)

Indicate specialization:  
clinical laboratory sciences, gerontology, health care outcomes research, nurse anesthesia, occupational therapy, physical therapy, radiation sciences, rehabilitation leadership or patient counseling

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Mar 15	GRE or MAT

##### Special requirements:

Contact School of Allied Health Professions Dean's Office for specific admission requirements

The Doctor of Philosophy Program in Health Related Sciences in the School of Allied Health Professions was designed as a distance learning program with the cooperation and commitment of the nine departments of the school: Clinical Laboratory Sciences, Gerontology, Health Administration, Nurse Anesthesia,

Occupational Therapy, Patient Counseling, Physical Therapy, Radiation Sciences and Rehabilitation Counseling.

The mission of the School of Allied Health Professions is to serve as an international leader in the education of excellent, innovative and responsible allied health professionals. Educational formats that are technologically advanced and accessible to students through on-campus and distance learning are emphasized throughout all programs in the school. In addition, the school promotes excellence in health care service and encourages collaborative research that generates state-of-the-art and specialized knowledge.

This doctoral program involves a four-year course of study. It is designed to meet the critical need for doctorally prepared allied health professionals across the nation, specifically in the areas of teaching, research and administration. The departments of the School of Allied Health Professions offer a doctoral curriculum with a common interdisciplinary core of courses and nine specialty tracks germane to the disciplines of the participating departments.

### Student learning outcomes

Students completing this doctoral program will:

- Exhibit the ability to understand issues, design and execute research plans, analyze research results and present conclusions using the appropriate methods.
- Demonstrate an in-depth knowledge in the area of specialization.
- Exhibit competency in translating research knowledge and principles into applied practice perspectives and skills.
- Display educational expertise in current principles and content of the allied health sciences.
- Demonstrate the ability to conduct research, practice and teach in the area of interdisciplinary health care practice.
- Display the ability to examine current issues and future changes in the health care environment from an interdisciplinary perspective.
- Exhibit knowledge and understanding of professional and ethical responsibility and conduct in the allied health professions.
- Demonstrate knowledge and understanding of the importance of cultural diversity in the delivery of health care and the formulation of health policy.

### Program instructional goals

The goal of the doctoral program in health related sciences is to provide experienced health professionals with advanced knowledge and skills so that they may assume positions in teaching, research and administration upon graduation. This doctoral program emphasizes both an interdisciplinary and multimedia focus, drawing from resources across the university. The overall objectives of this doctoral program are to produce scholars who have:

- the ability to understand, analyze, design, execute and evaluate research and practice in the allied health sciences, with particular in-depth understanding in the chosen area of specialization,
- the ability to translate research knowledge and principles into applied practice perspectives and skills,
- the ability to teach the current principles and content of the allied health sciences,
- the ability to do research, practice and teach in the area of interdisciplinary health care practice,
- the ability to continually examine current and future changes in the allied health disciplines from an interdisciplinary perspective,
- a demonstrated knowledge and understanding of professional and ethical responsibility and conduct in the allied health professions, and
- a demonstrated knowledge and understanding of ethnic issues and cultural diversity in health care delivery and health policy.

### Facilities

The administrative offices for the program are located on the MCV Campus, at 1200 E. Broad St. (West Hospital, First Floor, East Wing).

### Admission

#### Admission criteria

Admission to the program, which is open to students with clear career goals in the health related sciences, is limited and competitive. Therefore, work experience in a health-related field is encouraged.

Applicants to the program must meet the following admission criteria:

- Have an earned master's degree in an academic or allied health-related field from an accredited college or university. (The master's degree should be in one of our departmental areas of choice of specialty track.).
- Have a minimum cumulative GPA of 3.3 on their master's-level work.
- Have completed a graduate course in statistics with a minimum grade of B.
- Have earned a minimum combined score of 85 percent on the verbal and quantitative sections of the Graduate Record Exam or a minimum score of 85 percent on the Miller's Analogies Test. Tests must have been taken within the past five years.
- When applicable, have a minimum Test of English as a Foreign Language score of 600.
- Demonstrate a record of professional competency and success.
- Articulate clear professional and educational goals and written communication skills through the submission of a written essay.

Enrollment in the program is open to qualified persons without regard to age, race, sex, religion, disability or national origin. Admission requirements are in compliance with all applicable federal and state statutes, orders and regulations, and university guidelines.

#### Admission procedures

Prior to reviewing an application for admission, the program must receive:

- A completed application form from the applicant, including:
  - Three letters of recommendation, two of which preferably are from sources qualified to assess the candidate's academic potential
  - A written essay that discusses career goals and the manner in which this doctoral program will enhance those goals, and what the applicant expects to contribute to this program
  - A curriculum vitae
- Official transcripts indicating completion of baccalaureate and master's degrees (or equivalent) from an accredited college or university
- GRE or MAT scores

Incomplete packages may not be reviewed. Materials are sent to the Graduate School for processing and then forwarded to the School of Allied Health Professions. Once received in the school, the application is reviewed for completeness. Applicants with incomplete files will be contacted regarding the missing materials. Incomplete files will be held in the director's office until all materials are received.

Completed folders will be sent to the respective departmental representative of the School of Allied Health Professions Doctoral Program Advisory Committee. Departments will then rank qualified applicants and, based on a review of the file, a personal interview will be scheduled at the department's discretion for their top candidates. Following the departmental ranking, all files will be returned to the director's office.

The D-PAC will meet to select and recommend the incoming class. The director and the dean of the School of Allied Health Professions are responsible for the final decision.

Applicants will be notified by the dean of the Graduate School regarding the admission decision and of the deadline for their acceptance of the offer and holding fee.

### Advising

Upon admission to the program, students will be assigned an interim adviser to guide them through the core courses and assist them as they consider their area of research. All program advisers will have an earned doctorate and be a member of the university's graduate faculty.

Students may change their interim adviser as their programs of study and interests evolve, if approved by the program director. Although discouraged, some students

may wish to switch their area of specialization (changing from the department through which they were initially admitted to the program.) Students who want to change specialization areas must petition the doctoral program director. The petition must be approved by the program director, the D-PAC and the appropriate department chair. There is no guarantee that the applicant will be accepted into the new specialization area.

After successful completion of the comprehensive examinations, students will choose a dissertation chair who will serve as adviser and guide them through their research/dissertation process.

## Program continuation and completion requirements

### Continuation requirements

After admission to the Ph.D. program, the student must maintain a minimum cumulative GPA of 3.0 in all course work completed at VCU. A student who falls below that minimum will have one semester to remedy the deficiency. Even with an overall GPA of 3.0 or better, a student may earn no more than two (six credit hours) grades of "C." A student who receives a grade of "D" or "F" will be reviewed for continuation in the program by the department of their specialization.

Students are expected to maintain continuous enrollment while in the program. Following the completion of the core course work, students must register for at least one credit hour each fall and spring semester for continuation in the program. A student who fails to register must have advance approval to do so or will be dropped automatically from the program and must reapply for reinstatement. The maximum time to complete all of the requirements for the degree is eight calendar years from the date of entry into the program.

### Course transfer or waiver

A maximum of 25 percent of the course work other than research may be transferred from another VCU program or outside institution and applied toward the Ph.D. course requirements. Transfer and waiver credit is given at the discretion of the program director after consultation with appropriate faculty members, subject to university approval. Courses taken as requirements for other degrees are not transferable. A waiver may be warranted if an equivalent course was taken. However, another course must be substituted for the waived course in order to fulfill the requisite 51 credit hours needed for degree completion.

### Comprehensive examination

The purpose of the comprehensive examination is to provide a vehicle through which students can demonstrate the ability to integrate their educational experience by adequately addressing complex questions pertinent to the current and developing knowledge of the allied health fields. Students are eligible to take each of the two comprehensive examinations upon successful completion of the appropriate core course work. The core exam must be taken within six months of completing the methods exam.

Two written examinations will be administered, one for the common interdisciplinary core and one for the research methods core. A three-member graduate faculty committee will develop and administer each exam. This committee will be made up of two members of the Core Advisory Committee and one member appointed by the program director. Each exam will be offered once in the fall semester, and once in the spring semester. Prior to completion of the semester in which the student becomes eligible to take each exam, he/she must submit a formal statement of intent to the program coordinator.

Students who receive a failing grade on their initial attempt will have one opportunity to repeat each comprehensive examination. Failure to pass an exam on the second attempt will result in termination from the program.

### Program completion requirements

The doctor of philosophy degree is awarded after (1) the minimum 51 credit hours of course work are completed; (2) comprehensive exams are passed; and (3) either a dissertation is written and defended orally, or three first-author articles of publishable quality on research undertaken by the doctoral candidate once enrolled in the program are written and defended orally. The journal articles will be scrutinized for quality of scholarship by an internal research committee headed by the student's research adviser. All three articles must be approved by the internal research committee prior to submission.

## Curriculum structure

The proposed curriculum is designed to take four years to complete. Students spend the first two and one-half years (six-month-long semesters) completing

course work. The final year and one-half is spent developing the doctoral dissertation. Research components are present in each year of the program and a research emphasis is present throughout the entire curriculum. The student is required to designate the area of intended research in her/his specialization area in the first year.

Each of the five course-work semesters is composed of both on- and off-campus components. On-campus sessions, scheduled during the end of June and beginning of July, and the beginning of January, will employ a rather traditional mix of educational technologies (e.g., lectures, seminars and assigned reading). During the off-campus component of each semester, students pursue their studies employing a wide variety of innovative educational technologies (e.g., computer conferencing, computer-aided instruction, videotape packages and programmed instructional material), in addition to assigned readings and the completion of various assignments and projects. Upon completion of the five semesters of course work, students are required to return to campus each semester until a research proposal has been developed and successfully defended.

The program curriculum consists of a total of 51 credit hours (18 credits of common interdisciplinary core courses, 12 credits of research methods core courses, nine hours of specialty track courses and 12 hours of dissertation research). The courses, arranged by focal area are:

	credits
<b>Semester 1</b>	
ALHP 701 Health Services Delivery Systems	3
ALHP 712 Multimedia Technology and Curriculum Design for Health Care Professionals	3
ALHP 760 Biostatistical Methods for Health Related Sciences	3
<b>Semester 2</b>	
ALHP 702 Finance and Economic Theory for Health Care	3
ALHP 761 Health Related Sciences Research Design	3
ALHP 762 Multivariate Statistical Methods for Health Related Sciences Research	3
<b>Semester 3</b>	
ALHP 718 Health Informatics	3
ALHP 763 Clinical Outcomes Evaluation for Health Related Sciences	3
ALHP 781 Doctoral Seminar in Health Related Sciences	3
Methods Comprehensive Exam	
<b>Semester 4</b>	
ALHP 708 Ethics and Health Care	3
ALHP 716 Grant Writing and Project Management in Health Related Sciences	3
ALHP 890 Dissertation Seminar	3
Core Comprehensive Exam	
<b>Semester 5</b>	
ALHP 792 Independent Study	1-4 (3 required)
ALHP 793 Research Practicum	3
ALHP 899 Dissertation Research	1-9 (9 required)
<b>Semester 6</b>	
ALHP 899 Dissertation Research	
<b>Semester 7</b>	
ALHP 899 Dissertation Research	
<b>Semester 8</b>	
ALHP 899 Dissertation Research	

Note: All three of the specialty track courses and the dissertation research courses are taken in one of the following areas, and each of the departments have curricular section numbers for each of the respective courses (ALHP 781, ALHP 792, ALHP 793 and ALHP 899):

Section 001 Clinical Laboratory Sciences  
 Section 002 Gerontology  
 Section 003 Health Care Outcomes Research  
 Section 004 Nurse Anesthesia  
 Section 005 Occupational Therapy  
 Section 006 Physical Therapy  
 Section 007 Radiation Sciences  
 Section 008 Rehabilitation Counseling  
 Section 009 Patient Counseling

## Dissertation and published research requirements

### Admission to candidacy

Students are eligible to begin their dissertation upon written certification by the program director and associate dean of the Graduate School that all predissertation/research requirements, including the comprehensive examinations, have been satisfied and that the student is prepared to proceed with the dissertation/research project. Copies of the certification will be forwarded to the student, the student's formal program adviser and the dean of the School of Allied Health Professions. After admission to candidacy, students will proceed to propose, complete and defend their dissertation or three journal articles research requirement.

### Enrollment requirement

Students are required to maintain continuous enrollment in ALHP 899 Dissertation Research until completion of the requirements, including the defense process.

### Dissertation/research committee

After successful completion of the comprehensive exam, the student nominates a dissertation/research committee and the dissertation/research director submits the nominations in writing to the program director. Such committees will consist of a minimum of four graduate faculty members, one of whom will be outside the student's specialty track. The program director will provide written approval of the dissertation/research committee and clear such appointments with the appropriate administrative officials.

### Dissertation/research standards

The dissertation or publishable research articles must represent independent research and should be based on an original research question or hypothesis. Generally, dissertations or publishable research articles will demonstrate the student's ability with empirical research, adhering to canons of (1) logic in conceptualization and design, (2) valid and reliable measurement, (3) appropriate analytic technique and (4) appropriate interpretation of results. Studies should be based on a formal theoretical or conceptually explicit framework for investigating a question or testing a hypothesis relevant to the allied health field.

## Tuition and fees

Graduate tuition and fees will be assessed in accordance with rates approved annually by the VCU Board of Visitors. In addition to tuition, a program-specific fee is assessed for this distance-learning program. Tuition and fees include all direct program costs and the use of the university's computing systems. An additional fee may be charged for learning materials distributed during a course.

## Computer requirements

All students admitted to the program must have access to a personal computer (no older than two years) and a DSL or cable modem. Once admitted to the program it is recommended that students who do not feel proficient in computer skills enroll in a basic computer course to become comfortable with use of the Internet and with the basics of document processing software.

## Financial aid

Students must apply directly to the financial aid office for consideration. In addition, when other support is available to students, all will be notified of the eligibility criteria and application procedures.

## Due process

All appeals to decisions based on this document are made to the program director. In the event that satisfactory resolution is not attained, the next level of appeal is the dean of the School of Allied Health Professions. Students in the program are governed by the School of Allied Health Professions Student Academic Appeal Policy and Procedures document, which was developed in compliance with university guidelines. Exception to any of the policies and procedures identified in this document require the written consent of the program director and, when necessary, the dean of the school.

## Department of Clinical Laboratory Sciences

The Department of Clinical Laboratory Sciences supports the philosophy and mission of the university and the School of Allied Health Professions, and provides an environment that nurtures excellence in education, research and service. The programs offered by the department are dedicated to enhancing and promoting clinical laboratory science. The department fosters fair and equitable educational experiences for students of all ages and diverse backgrounds. Strong affiliations with clinical educators and the integration of innovative technology in the academic setting facilitate both the education and research goals of the department.

The department provides students with superior studies in clinical laboratory science, including both theoretical and applied clinical education, and develops problem-solving expertise, leadership capabilities and communication skills. By providing advanced theoretical and technical education, the graduate program serves to maintain and update the competency of laboratory professionals and to prepare students to assume roles as laboratory supervisors, university educators and researchers. A mature, responsible approach to the acquisition of knowledge is cultivated in order to establish continuing intellectual growth and an enthusiasm for the profession.

The department meets the growing health care needs of the community by providing highly competent and professional clinical laboratory scientists who will be able to function effectively upon entrance into the field and be prepared to explore future scientific and technological advances in laboratory science. And the department promotes continued professional development and personal growth for the faculty and staff to fulfill and balance the individual's abilities and aspirations with the departmental, school and institutional mission and needs. Members of the department conduct themselves in a forthright, ethical manner and practice the highest standard of quality performance.

The objectives of the Department of Clinical Laboratory Sciences are:

- To provide an educational program that prepares students to accurately perform and evaluate analytical tests on body fluids, cells and products.
- To foster the development of professional conduct, interpersonal communication skills and ethical principles.
- To develop and promote strategies for lifelong learning and to encourage continued professional growth through research, continued education and active participation in professional societies.

## Administration

**Teresa S. Nadder**

Associate Professor and Department Chair

**Emily M. Hill**

Instructor and Assistant Chair

## History

Clinical laboratory scientists have been trained on the MCV Campus since 1927. However, the Department (formerly school) of Medical Technology was not formally established until 1952, at which time the curriculum included six months of didactic experience with lectures and laboratory sessions held in the department, followed by a six-month rotation through the clinical laboratories. The school offered a certificate and/or bachelor's degree program; the certificate program was discontinued during the 1961-62 school year.

In 1974 the curriculum was expanded to the current two-plus-two year program in which students complete 60 semester hours of prerequisites followed by two years of professional course work. The graduate program in clinical laboratory sciences



was started in 1967 to provide advanced education for certified medical technologists/clinical laboratory scientists. In 1985 the program was modified to allow candidates holding a degree in another area of science to obtain graduate education in clinical laboratory sciences.

In 1994, the department name was changed to the Department of Clinical Laboratory Sciences. In 2003, an accelerated track was initiated to integrate the undergraduate and graduate programs, which requires completion of two years of prerequisites and three years of full-time professional course work, and leads to the simultaneous awarding of both the bachelor's and master's degrees.

## Facilities

The Department of Clinical Laboratory Sciences is located in the Randolph Minor Hall on the MCV Campus. All faculty and clerical offices are located in this facility, as well as student classrooms, general teaching laboratory, computer facilities and a student lounge/reading room.

## Clinical laboratory sciences courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to clinical laboratory sciences ([CLLS](#)) courses.

### Clinical Laboratory Sciences, Master of Science (M.S.)

#### Admission requirements summary

##### Clinical Laboratory Sciences, Master of Science (M.S.)

Indicate specialization:

#### Student learning outcomes for accelerated and advanced master's track

- Demonstrate professional and leadership conduct
- Ability to research and evaluate laboratory issues

#### Student learning outcomes for categorical master's track

- Demonstrate knowledge and proficiency of laboratory tests in specialized area of study
- Demonstrate professional and leadership conduct
- Ability to research and evaluate laboratory issues

#### Objectives

The objectives of the Department of Clinical Laboratory Sciences master's program are to:

- Provide the student with a superior, yet flexible, course of advanced study in clinical laboratory sciences
- Prepare the student to critically evaluate the literature related to laboratory issues and to produce future advances within laboratory sciences
- Foster the continued development of interpersonal communication skills and ethical principles
- Develop and promote strategies for lifelong learning and encourage continued professional growth through research, education and active participation in professional societies
- Provide society and the commonwealth of Virginia with a source of highly competent professional laboratorians capable of functioning effectively in leadership roles within the field of clinical laboratory sciences

## Financial aid

Students must apply through the financial aid office for assistance. Refer to the [general section on financial aid in this bulletin](#) for details of the programs available. In addition, there are limited funds from departmental and professional sources. When this support is available, all students will be notified of the eligibility criteria and application procedures.

## Admission requirements

In order to meet the needs of all individuals interested in continuing their education in the field, the Department of Clinical Laboratory Sciences has modified its graduate curriculum to accommodate a diverse group of candidates,

including full- and part-time students. The program is highly flexible, allowing students to select course work that meets their specific needs once the basic program requirements have been met.

The general entrance requirements for the Master of Science in Clinical Laboratory Sciences (for the advanced and categorical tracks) are:

- Baccalaureate degree from an accredited college or university with a major in clinical laboratory sciences (medical technology) for the advanced track; biology or chemistry for the categorical track
- Minimum undergraduate GPA of 3.0 on a 4.0 scale for at least the last two years of undergraduate work
- Minimum TOEFL of 600 (paper), 250 (computer) or 100 (iBT) for international students whose native language is not exclusively English
- Satisfactory scores on the GRE
- Three letters of recommendation from employers or recent instructors addressing academic potential

The entrance requirements for the Master of Science in Clinical Laboratory Sciences — accelerated track are:

- Acceptance into the B.S. degree program in clinical laboratory sciences
- Completion of 52.5 hours of CLLS professional courses with a minimum GPA of 3.0
- Satisfactory GRE scores

#### Guaranteed admission

VCU students participating in the Honors College may apply for guaranteed admission to the Master of Science in Clinical Laboratory Sciences program. Refer to the [Guaranteed Admission Program](#) in this bulletin for details of the program. The Department of Clinical Laboratory Sciences also has an agreement for guaranteed admission into the Master of Science program with Meredith College in North Carolina. The requirements for guaranteed admission are:

- Baccalaureate degree from an accredited college or university with a major in clinical laboratory sciences (medical technology), biology or chemistry
- Minimum overall undergraduate GPA of 3.25 and a minimum undergraduate science GPA of 3.0 on a 4.0 scale
- Completion of the GRE
- Minimum TOEFL of 600 (paper), 250 (computer) or 100 (iBT) for international students whose native language is not exclusively English
- Three letters of recommendation from employers or recent instructors addressing academic potential

## Transfer credit

Students who have earned graduate credit before entering the Department of Clinical Laboratory Sciences' master's program may be permitted, at the discretion of the faculty, to transfer a maximum of six semester hours of credit toward the Master of Science degree. Transfer credit may be allowed when, in the judgment of the faculty, the applicants have satisfactorily completed course work equivalent to requirements of the graduate curriculum in this department.

## Program options

The department offers three tracks in the master's degree program in clinical laboratory sciences:

- [Accelerated master's track](#)
- [Advanced master's track](#)
- [Categorical master's track](#)

Application forms and instructions for applying to all graduate programs are available on the [Graduate School](#) Web site.

### Accelerated master's track

**Admission requirements summary**

<b>Accelerated master's track</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jun 1	GRE
	Spring	Nov 1	

The accelerated master's track integrates graduate and undergraduate course work and leads to the awarding of a B.S. and M.S. degree simultaneously. The student must complete a minimum of 112.5 undergraduate credit hours including 60 prerequisite credit hours (see [admission requirements](#) for the baccalaureate degree program in Clinical Laboratory Sciences in the Undergraduate Bulletin for a list of the specific courses) and 52.5 credit hours of professional coursework in clinical laboratory sciences. A minimum cumulative GPA on CLLS courses of 2.7, completion of the GRE and an interview are required for admission into the graduate portion of the program. The candidate must complete at least 40 additional hours of graduate-level course work. Upon completion of the curriculum students are eligible to take the national certification examinations for a CLS/MT generalist. Students pursuing the accelerated master's track must initially qualify for admission to the Bachelor of Science in Clinical Laboratory Sciences program. Application materials may be obtained by writing to the Office of Undergraduate Admissions, Virginia Commonwealth University, P.O. Box 980632, Richmond, VA 23298-0632, or the Department of Clinical Laboratory Sciences, Virginia Commonwealth University, P.O. Box 980583, Richmond, VA 23298-0583, or from the Web at [www.sahp.vcu.edu/cls](http://www.sahp.vcu.edu/cls).

**Curriculum for the accelerated master's track**

	Credits
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**Prerequisite requirement**

60 credits of course work prior to entrance into the Bachelor of Science program in clinical laboratory sciences (refer to the <a href="#">VCU Undergraduate Bulletin</a> for details of the required courses)	60
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**Professional studies requirement — Undergraduate**

CLLS 301-302 Hematology	7.5
CLLS 304 Urine and Body Fluid Analysis	2.0
CLLS 306 Immunohematology	4.5
CLLS 307 Introduction to Pathogenic Microbiology	3.0
CLLS 308 Pathogenic Bacteriology	5.0
CLLS 310 Clinical Immunology	4.5
CLLS 311-312 Clinical Chemistry and Instrumentation I, II	10.0
CLLS 337 Clinical Education	1.0
CLLS 483 Biochemistry Practicum	3.0
CLLS 485 Hematology Practicum	3.0
CLLS 493 Clinical Microbiology Practicum	3.0
CLLS 494 Miscellaneous Clinical Practicum	3.0
CLLS 496 Blood Bank Practicum	3.0
	52.5

**Professional studies requirement – Graduate**

CLLS 580 Education/Management	3.0
BIOS 543 Statistical Methods I	3.0
ACCT 507 Fundamentals of Accounting	3.0
Education/Management/Business Electives	3.0
CLLS discipline-specific sciences (CLLS 627, 628, 629, 630)	9.0
CLLS 690 Clinical Laboratory Sciences Seminar	1.0
Research Methodology	3.0

CLLS 790 Research in Clinical Laboratory Sciences	3.0
Electives	12.0
	40

Full-time candidates require a minimum of five academic years to complete the program.

**Advanced master's track****Admission requirements summary**

<b>Advanced master's track</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jun 1	GRE
	Spring	Nov 1	
<b>Special requirements:</b>			
Contact department for list of institutions with guaranteed admissions agreements			

Students holding a baccalaureate degree in clinical laboratory sciences/medical technology and generalist certification by the National Credentialing Agency for Laboratory Personnel Inc. or the Board of Registry of the American Society for Clinical Pathology are eligible for the advanced master's track. Candidates may specialize and complete a project or thesis in clinical chemistry, hematology, microbiology, immunohematology, molecular diagnostics or immunology. In addition to the basic science requirement, each student will choose an area of secondary emphasis in biomedical research, education, management or business.

**Curriculum for advanced master's track**

Students in the advanced master's track are required to complete a minimum of 34 semester credits to include:

Discipline-specific science	15-18
Seminar	3 (4 recommended)
Education, management or business	3
Statistics	3
Research methodology	3
Research	4-6

Specific courses will depend on the individual candidate's choice of specialty. The basic science requirement may be distributed among approved courses listed in this bulletin.

Students with a secondary emphasis in education, management or business may elect to focus on courses in those areas in lieu of the discipline-specific course work. No more than 14 credit hours in the area of secondary emphasis may be applied toward the total minimum requirement.

A research study in the form of a thesis or project is required. Students selecting the thesis option complete a minimum of 15 semester hours of discipline-specific sciences and six hours of research; students selecting the project option complete 18 semester hours of discipline-specific sciences and four hours of research.

Full-time candidates require a minimum of two academic years to complete the program. There are no full-time residence requirements. Part-time students must complete all work requirements within six years. An interruption in registration in excess of one semester requires prior approval of the department.

**Categorical master's track**

**Admission requirements summary**

<b>Categorical master's track</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jun 1 Nov 1	GRE
<b>Special requirements:</b> Contact department for list of institutions with guaranteed admissions agreements  Complete supplemental <a href="#">Essential Functions for Admission to Programs in Clinical Laboratory Sciences</a> form [pdf]			

The categorical master's track is designed for students with a baccalaureate degree in biology or chemistry. This track provides specialized study, including a clinical practicum, in one of the following areas: clinical chemistry, hematology, microbiology or immunohematology. A project or thesis is required. Upon completion of the curriculum, students are eligible to take a national certification examination in the area in which they performed their concentrated study.

**Curriculum for categorical master's track**

Students in the categorical master's track are required to complete a minimum of 34 semester credits of graduate course work to include:

Discipline-specific science (includes CLLS 500 and clinical practicum)	15-18
Seminar	3 (4 recommended)
Education, management or business	3
Statistics	3
Research methodology	3
Research	4-6

Specific courses will depend on the individual candidate's choice of specialty. The basic science requirement may be distributed among approved courses listed in this bulletin.

Categorical master's candidates are required to complete a six-week clinical practicum in their specialty area.

A research study in the form of a thesis or project is required. Students selecting the thesis option complete a minimum of 15 semester hours of discipline-specific sciences and six hours of research; students selecting the project option complete 18 semester hours of discipline-specific sciences and four hours of research.

Full-time candidates require a minimum of two academic years to complete the program. There are no full-time residence requirements. Part-time students must complete all work requirements within six years. An interruption in registration in excess of one semester requires prior approval of the department.

**Department of Gerontology**

The mission of the Department of Gerontology is to improve elder care through education.

The basic philosophy of the department is to improve the overall well-being of elders through the development of educational programs that are responsive to the changing psychological, physical, social and political needs of our elderly population. Research, community service and continuing education in gerontology and geriatrics are integral parts of this educational effort.

**Administration**

**E. Ayn Welleford**

Associate Professor and Department Chair

**History**

The Department of Gerontology was founded in 1976. The Master of Science in Gerontology, as well as a postgraduate Certificate in Aging Studies, is offered. The Department of Gerontology became a part of the School of Allied Health Professions in January 1985. As part of the department, the Geriatric Education Center was established Oct. 1, 1985. This center is a multidisciplinary effort

involving cooperation of all the health-related professional schools and the College of Humanities and Sciences; the major focus is to promote education in geriatrics and gerontological health care.

**Objectives**

The purpose of this program is threefold: (1) to train qualified professionals to work in administrative, planning, service delivery and instructional and staff development positions in programs and services for the elderly at the national, state and local levels, (2) to provide an opportunity for those studying in other disciplines, and whose work will encompass service to the aged, to integrate their own training with a comprehensive knowledge and understanding of the aging process and (3) to stimulate the design and execution of gerontological research across the multiple disciplines.

**Facilities**

Offices of the Department of Gerontology are located in the Theater Row building at 730 E. Broad St. The Virginia Geriatric Education Center is housed in West Hospital, 1200 E. Broad St., 4th Floor, West Wing.

**Honors and awards****A. D. Williams Award**

An annual award is made to a student who demonstrates by virtue of high scholastic attainment and professional competence unusual promise and ability in the field of gerontology.

**Gerontology student of the year**

Each year the faculty chooses a graduating student who has exhibited outstanding scholastic achievement and demonstrated service in gerontology.

**Distinguished Alumni Award**

Each year the departmental faculty chooses an alumna/alumnus who best exemplifies the standards of the profession.

**Iris A. Parham Award and Scholarship**

The Iris A. Parham Scholarship was created by alumni in honor of Dr. Iris A. Parham and the Department of Gerontology's 25th anniversary. This award is given to a candidate who has demonstrated distinguished academic performance, outstanding achievement in and dedication to the field of gerontology, and has overcome obstacles or met significant challenges to pursue a career in aging studies.

**Programs**

Seven courses of study are offered:

- A Master of Science in Gerontology degree
- A Certificate in Aging Studies program to meet the needs of persons working with the elderly, but who have no academic training in gerontology
- A combination of the Certificate in Aging Studies program and the Doctor of Physical Therapy degree, offered jointly with the Department of Physical Therapy
- A combination of the Certificate in Aging Studies program and a Master of Social Work degree, offered jointly with the School of Social Work
- A combination of the Certificate in Aging Studies with the Doctor of Pharmacy degree, offered with the School of Pharmacy
- A combination of the Certificate in Aging Studies and a Master of Science in Rehabilitation Counseling, offered jointly with the Department of Rehabilitation Counseling
- A combination of the Certificate in Aging Studies and either the Post-professional Master of Science in Occupational Therapy (M.S.), the Master of Science in Occupational Therapy (M.S.O.T.) or the Post-professional Occupational Therapy Doctorate (O.T.D.)

**Gerontology courses**

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to gerontology (GRTY) courses.

### Aging Studies, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Aging Studies, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	All semesters		

The Certificate in Aging Studies program is designed to meet the needs of those individuals who want graduate training in gerontology but who do not want to complete the full master's program. This program is complementary to the Master of Science program. Certificate students who wish to enter the Master of Science program must make formal application and abide by the admission requirements outlined in this bulletin.

In addition to the Certificate in Aging Studies, there are jointly presented specialty certificates: M.S. in Occupational Therapy and Certificate in Aging Studies; M.S.W. and Certificate in Aging Studies; Certificate in Aging Studies with the Department of Rehabilitation Counseling; Certificate in Aging Studies with the School of Pharmacy. Courses for the certificate also are available in a distance format. Contact the Department of Gerontology directly for information on the distance courses at (804) 828-1565.

#### Student learning outcomes

- Students will understand the biological, psychological and sociological underpinnings of aging in U.S. society.
- Students will demonstrate understanding of methods and techniques to assist older persons and their families to achieve a successful response to aging.
- Students will demonstrate an ability to combine their knowledge of gerontology with experience in the aging network and with knowledge of their core professional discipline so as to contribute to the successful delivery of services in the aging network.
- Students will develop understanding of and will engage in interdisciplinary approaches to issues and problems of aging.
- For students enrolled in a dual program:** students will engage in interdisciplinary practice in their core discipline with special emphasis on gerontology.

### Admission requirements

The Certificate in Aging Studies Program is open to qualified students who have earned a baccalaureate degree from an accredited college or university or the equivalent.

### Curriculum

#### General Certificate in Aging Studies Program

The certificate program of studies requires successful completion of 21 credit hours of work comprised of the following courses now offered in the gerontology graduate curriculum:

- The biology of aging, psychology of aging, social gerontology, and research methods form the basic core of the certificate program.
- Following the completion of these gerontology courses, students may choose two elective gerontology courses after consultation with their faculty advisers. Advisers counsel students as to the courses that would best suit their educational training needs. Students may choose from aging and human values; topical seminar; independent studies, problems, issues and trends in gerontology; recreation, leisure and aging; and other elective courses.
- In addition to the completion of these prescribed courses, each candidate for a Certificate of Aging Studies would be required to satisfactorily complete a project in gerontology on a subject approved by the faculty. This project may be a comprehensive literature review, a research project, or a training or

demonstration project. Students would register for a three-credit course in independent studies (GRTY 692).

### Awarding of the certificate

Upon successful completion of the total program described here, as well as maintaining a 3.0 GPA, students are awarded a Certificate in Aging Studies.

### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Doctor of Pharmacy (Pharm.D.)

The Department of Gerontology in cooperation with the School of Pharmacy provides an opportunity for students in the Doctor of Pharmacy program to complete the certificate. This 21-credit program is designed to integrate the required independent study project in gerontology into the Pharm.D. curriculum's clerkship assignment.

	Credits
GRTY 601 Biological and Physiological Aging	3
GRTY/PSYC 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3
GRTY 692 Independent Studies	2
GRTY elective(s)	3
PHAR 529 Clinical Therapeutics Module III: Introduction to Special Populations	1
PHAR 533 Introductory Pharmacy Practice Experience IV: Clinical Patient Care (service learning)	.5
PHAR 565 Evidence-based Pharmacy II: Research Methods and Statistics	2.5
PHAR 566 Evidence-based Pharmacy III: Drug Literature Evaluation	2
PHAR 721 Clinical Therapeutics Module XVII: Special Populations	1
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### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Master of Science in Occupational Therapy (M.S.O.T.)

The departments of Occupational Therapy and Gerontology have developed a specialized version of the Certificate in Aging Studies program for students completing the Master of Science in Occupational Therapy. Students must meet admission requirements for the occupational therapy degree and the gerontology certificate program. The student is required to complete the following courses:

	credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 606 Aging and Human Values, or GRTY 616 Geriatric Rehabilitation or GRTY 691 Geriatric Interdisciplinary Team Training	3
OCCT 691 Special Topics	2
OCCT 709 Research Process and Statistical Analysis in Occupational Therapy	4
OCCT 729 Research Practicum in Occupational Therapy	3
	<hr/> 21

Contact the respective departments for additional curriculum information.



### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Master of Science in Rehabilitation Counseling (M.S.)

The Department of Rehabilitation Counseling, in cooperation with the Department of Gerontology, provides its degree-seeking students with the opportunity to earn the Certificate in Aging Studies while concurrently completing the requirements for the Master of Science in Rehabilitation Counseling. Students must meet admission requirements for both the rehabilitation degree and the gerontology certificate program, and admission into one is independent of the other. Additional information, including the specific program of study for the counseling program, may be obtained in the Department of Rehabilitation Counseling. Information on the curriculum presented by the Department of Gerontology can be obtained by contacting the chair of the Department of Gerontology.

#### Admission requirements

See the individual program pages for admission requirements specific to the separate degrees.

#### Curriculum

In addition to the requirements for the Master of Science in Rehabilitation Counseling, the certificate program requires the completion of 15 credits in gerontology and six credits in rehabilitation counseling.

	credits
GRTY 601 Biological/Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 615 Aging and Mental Disorders or GRTY 641 Psychological Assessment and Treatment	3
GRTY 692 Independent Study in Gerontology	3
RHAB 625 Research in Rehabilitation	3
RHAB 696 Supervised Clinical Practice in Rehabilitation Counseling	3
	<hr/> 21

### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Post-professional Master of Science in Occupational Therapy (M.S.)

The departments of Occupational Therapy and Gerontology have developed a specialized version of the Certificate in Aging Studies program for students completing the post-professional Master of Science in Occupational Therapy. Students must meet admission requirements for the occupational therapy degree and the gerontology certificate program. The student is required to complete the following courses:

	Credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602/PSYC 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3
GRTY 606 Aging and Human Values	3
GRTY 616 Geriatric Rehabilitation	3
GRTY 620 Geriatric Interdisciplinary Team Training	1
OCCT 655 Older Adult Advanced Assistive Technology Application in Occupational Therapy	3
OCCT 710 Quantitative Research Process	3
OCCT 798 Thesis	3

Contact the respective departments for additional curriculum information.

### Combined Master of Social Work (M.S.W.) and Certificate in Aging Studies (Post-baccalaureate graduate certificate)

See the individual program pages for admission requirements specific to the separate degrees.

The School of Social Work in cooperation with the Department of Gerontology of the School of Allied Health Professions of VCU provides students with a unique educational opportunity in social work and gerontology. Master of Social Work students interested in work with elders or in gerontological programs may earn a Certificate in Aging Studies while completing the master's degree requirements.

Students must meet the admission requirements of the Master of Social Work program of the School of Social Work and of the Certificate in Aging Studies program in the Department of Gerontology, School of Allied Health Professions. Admission into one program does not guarantee admission into the other. In order to meet the requirements of the M.S.W. degree and the Certificate in Aging Studies, students complete a total of 65 graduate credits. All foundation and concentration courses of the Master of Social Work Program are completed, and core courses (nine credits) of the Certificate in Aging Studies Program are completed. Other requirements are met by (1) completion of M.S.W. research courses in which students undertake a project focused on aging, (2) completion of second-year field instruction practicum requirements (six credits) in a social work setting related to aging, (3) completion of an independent study course in gerontology, which integrates research and practicum courses.

Additional information may be obtained from either of the following offices:

**Department of Gerontology**  
**School of Allied Health Professions**  
[www.sahp.vcu.edu](http://www.sahp.vcu.edu)  
 Virginia Commonwealth University  
 P.O. Box 980228  
 Richmond, VA 23298-0228  
 Attention: M.S.W.-Gerontology Certificate Adviser

**School of Social Work**  
[www.vcu.edu/slwwweb](http://www.vcu.edu/slwwweb)  
 Virginia Commonwealth University  
 1001 W. Franklin St.  
 Richmond, VA 23284-2027  
 Attention: M.S.W.-Gerontology Certificate Adviser

	credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 692 Independent Study in Gerontology	2
SLWK 706 and 707 Research for Clinical Social Work Practice I and II or	6
SLWK 714 and 715 Research for Social Work Administration, Planning and Policy I and II	
SLWK 793-794 Concentration Field Instruction or	6
SLWK 795 Concentration Block Field Instruction	
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### Gerontology, Master of Science (M.S.)

#### Admission requirements summary

Gerontology, Master of Science (M.S.): all tracks			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	All semesters		GRE or MAT

The gerontology curriculum is a multidisciplinary program established in 1976 which offers the Master of Science degree. The program benefits from professional collaboration with departments throughout the university

The 30-hour degree program includes 15 hours of courses in gerontological core, five hours in gerontological research, six hours in gerontology practice elective courses and four hours in a field placement.

For students interested in seeking to work collaboratively to augment their studies, a variety of multidisciplinary electives beyond their required curriculum are also available.

#### Student learning outcomes

1. Using the Association for Gerontology in Higher Education Core Content as the foundation of study, students will learn to apply the biological (e.g., wear and tear, programmed senescence, caloric restriction), psychological (e.g., Erikson's developmental theory, gerotranscendence, selective optimization with compensation) and sociological theories (e.g., continuity, lifecourse, modernization) of aging to gerontology practice.
2. As students develop a clearer understanding of effective eldercare through the biopsychosocial approach, lifespan perspective and numerous theories within the field (as implicit in AGHE's core competencies) the necessity of geriatric interdisciplinary care becomes more apparent. Students will gain understanding and respect for the interdisciplinary team process in effective gerontological practice and essential role of various disciplines on the care team.
3. Students will demonstrate a thorough understanding of the multiple paths, methods and techniques of optimal aging in order to assist older persons, their families, program providers and policymakers toward the goal of optimal aging. A comprehensive understanding of gerontology core concepts is essential to this goal.
4. Students will demonstrate an understanding of the aging network and will be able to make contributions to community-identified needs through the successful delivery of services in the aging network. Community engagement will take the form of field work, research, grant writing, service learning opportunities, education and training.

#### Degree requirements

Students must complete a 30-credit-hour curriculum based on the core curriculum to include either a generalist or optional specialty track.

#### Curriculum

##### Outline of the core courses for a master's degree in gerontology

All students must successfully complete the following 30 hours of courses. Course descriptions can be found in the [online courses database](#).

Required courses

	Credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3
GRTY 604 Problems Issues and Trends in Gerontology	4
GRTY 605 Social Science Research Methods Applied to Gerontology	3
GRTY 606 Aging and Human Values	3
GRTY 607 Field Study in Gerontology	4
GRTY 608 Grant Writing	2
Gerontology practice electives	5

**Total minimum requirement** **30**

**Please consult your adviser for guidance with scheduling. It is required that students seek advising to determine how they will complete the five practice elective credits.**

#### Concentrations

M.S. degree seekers have the option to select the generalist track or one of the following concentrations. Specialty area content is obtained through elective courses and student field work/practicum (GRTY 607).

Optional concentration areas include:

#### Education

This area of concentration is designed for students interested in teaching or training careers in gerontology. Students electing this track will be prepared to provide instruction to university or community college students, the lay public, professional service providers and older people.

#### Health care organization and planning

Upon completion of this track, offered in conjunction with the Department of Health Administration, students will have a foundation of knowledge in health care organization, health planning, health policy and a macro perspective on the financing of health care. In addition, students will have developed skills in policy analysis and the use of economic tools. Finally, students will broaden their understanding of the political, legal and ethical issues involved in health care organization and planning.

#### Psychogeriatrics

This area of concentration, developed jointly with the Department of Psychology, is designed for students interested in working with those older adults and their families who are experiencing psychological difficulty. Students electing this track will be prepared to provide assistance directly to the elderly and their families as well as to consult and train professionals and paraprofessionals to provide more effective mental health services. Training is provided through a combination of specialized didactic instruction and structured field experience in providing direct services, consultation and education.

#### Public administration

Students who elect to pursue courses in the public administration track, developed jointly with the L. Douglas Wilder School of Government and Public Affairs, will, after completion of course work, be able to plan, organize, report and budget for public programs in aging. Grant writing and program evaluation skills will be developed as well. Students choosing the public administration track also may wish to complete the Certificate in Public Management or the Certificate in Nonprofit Management.

#### Research

This track is designed for students who would ultimately like to pursue doctoral studies in the social or behavioral sciences or the Ph.D. in Health Related Sciences (offered by the School of Allied Health Professions). Students who elect the research track must complete a thesis or a paper of publishable quality. Students will obtain a strong background in experimental psychology research design and methodology and a broad background in life-span developmental theory.

#### Social services

This track concentrates on developing specialized knowledge and skills in the provision of services to the elderly, basic understanding and skills in at least one method of social work practice, commitment and ability to participate in the development of strategies and policies relevant to amelioration of social problems of the elderly, and the ability to integrate and use in practice knowledge of individual behavior and social structure with particular reference to the needs of the elderly.

#### Admission policy

The program is open to qualified students who have earned a baccalaureate degree from an accredited college or university or the equivalent, maintained a minimum GPA of 3.0 and have satisfactory scores on the GRE or MAT. A successful work experience may strengthen the admission credentials of applicants with marginal records.

Because of the diversity of undergraduate majors, candidates for the gerontology program must present evidence of successful completion of undergraduate courses in the following areas:

- Biological science – minimum of six semester hours
- Psychology – minimum of three semester hours
- Sociology, anthropology or social work – minimum of three semester hours
- Statistics, research methods or equivalent – minimum of three semester hours (Topics covered in this undergraduate course should be equivalent to those outlined for STAT 214 in the Undergraduate Bulletin.)

Candidates for admission who do not meet these requirements will be expected to complete the required undergraduate course work or to pass challenge examinations by the end of the first year. See [Graduate Studies at VCU](#) in this bulletin for admission requirements and procedures.

#### Transfer and waiver of course credits

Students who have completed graduate work in other graduate departments, whether at VCU or another university, may transfer no more than 12 credit hours of work at B level if such work is considered relevant by the departmental admissions committee. Also, a maximum of six hours of graduate credits accrued at a B level as a "nondegree-seeking student" at VCU may be applied to the

Master of Science degree or three hours to the certificate program, with approval of the departmental Admissions Committee.

Transfer credits for graduate work at other institutions will be evaluated at the time of full admission to the program. To have credits transferred, students are required to prepare a synopsis of each graduate course that is to be transferred for review by the faculty. Each synopsis will include the name of texts used in the course and a specific listing of topics and material covered. Students may also apply for waivers of specific requirements in a similar manner.

## Master's thesis

- The master's thesis is an option for students entering with a bachelor's degree. Students may elect either a six-credit thesis or six hours of graduate course work to meet the 42-hour requirement.
- Each student shall arrange for a member of the gerontology program to serve as the chair of the thesis committee. With the chair's approval, at least two additional committee members will be selected. At least two of the members must be from the Department of Gerontology.

The thesis chair will monitor and advise during thesis development. The student will take the major role in actual data collection. The thesis should be a publishable piece of research that makes some contribution to the field of gerontology.

## Written comprehensive examination

A written comprehensive examination is required after completion of all required course work and before the student begins a practicum (field experience).

The comprehensive examination will be scheduled three times a year (early in the fall and spring semesters and once in the summer).

## Practicum

Field experiences, with the supervision arranged by the director and program faculty, constitute an additional requirement. These experiences are intended to develop practical understanding, skills, attitudes and values essential for working with the aged in a variety of settings.

The practicum will involve a 600-hour placement (one semester full time or two semesters half time). Each student must submit a practicum proposal (prepared with the assistance of the adviser) that must be approved prior to beginning the practicum.

For those already employed in the field of gerontology, an approved special project may be substituted for the field experience placement. Those students who are working full time in a job outside the field of aging also may submit a proposal for review that may allow for their continued employment, while fulfilling this important requirement. All students must register for GRTY 607 Field Study in Gerontology.

## Department of Health Administration

Education in health administration at the university began in 1949 with the establishment of a graduate curriculum in hospital administration. Early graduates received a certificate; the master's degree was awarded beginning in 1955.

These early efforts grew and developed into the Department of Health Administration, which was established in 1972. The department now includes three major programs: (1) Master of Health Administration, (2) Doctor of Philosophy in Health Services Organization and Research, and (3) Professional Master of Science in Health Administration – Online. The department also cooperates with the schools of law of the University of Richmond and Washington and Lee University in offering dual degree programs in health administration and law. In 2001, the dual degree M.D./M.H.A. program was established with the VCU School of Medicine. Both master's programs are fully accredited by the Commission on Accreditation of Healthcare Management Education (CAHME). In addition to these educational programs, the Department of Health Administration has a major research program and is involved in a wide range of public service activities, including continuing studies for health services administrators and other health professionals.

The overall purpose of the Department of Health Administration is to provide educational programs and services related to the organization and administration of health services. In achieving that purpose, the department's principal functions

are to provide high-quality education leading to careers in the administration of health care institutions, agencies and systems and to provide advanced training and education for persons who will teach, plan, evaluate and investigate health care policies and medical care systems. Corollary functions are to provide assistance and other services for community organizations and to conduct health services and health policy research.

## Administration

**Carolyn A. Watts**

Arthur Graham Glasgow Professor and Department Chair

**Dolores G. Clement**

Charles P. Cardwell Jr., Professor and Director of Graduate Programs

**Jan P. Clement**

Professor and Director of Ph.D. Program

## Facilities

The department is located in the William Grant House, formerly the Sheltering Arms Hospital, at 1008 E. Clay St., Richmond, VA. The chair's office and the professional graduate programs offices are located on the second floor. The doctor of philosophy program office is located on the third floor of the building.

MCV Hospitals, one of the largest teaching hospitals in the nation, and other clinical facilities of the VCU Medical Center are readily accessible to the department's students and faculty. In addition, the department has clinical affiliations and close working relationships with a large number of health care organizations and agencies in Virginia and throughout the United States. The organizations and agencies are used extensively as clinical facilities in the department's educational programs.

## Health administration courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to health administration ([HADM](#)) courses or executive program ([HADE](#)) courses.

### Health Administration, Master of Science in (M.S.H.A.)

#### Admission requirements summary

Health Administration, Master of Science in (M.S.H.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.H.A.	Fall	Mar 1	GRE or GMAT

See [www.had.vcu.edu/prospective/msha](http://www.had.vcu.edu/prospective/msha) for full program information and requirements.

The professional program is a 22-month full-time and 31-month part-time distance-learning course of study leading to the award of a Master of Science in Health Administration. It can be completed while working full time, because time away from work and home is minimized with six one-week on-campus periods over the 22-month period. The program is designed specifically for self-motivated, mature and experienced professionals who are seeking advanced preparation in management and administrative roles that ultimately lead to executive positions in complex health services organizations. Part-time options also are available.

The program is designed to meet the distinctive professional development needs of:

- Clinicians.
- Physicians.
- Mid-level managers.
- Executive-level managers.
- Functional specialists.

Applicants to the M.S.H.A. program should be employed in health care and have a minimum of five years of professional experience in addition to the academic requirements detailed in this bulletin. The 41-credit-hour curriculum emphasizes leadership in career progression as well as strategic and operational management of health care organizations.

The professional M.S.H.A. program-online has been continuously accredited and, in 2011, was awarded a six-year accreditation extension.

#### Student learning outcomes

Goal/domain	Competency	Description/learning outcomes
<b>I. Communication and relationship management</b>		
	Interpersonal communication	Build collaborative relationships and negotiation skills
	Writing skills	Prepare business communications
	Presentation skills	Demonstrate effective oral communication and presentation skills
<b>II. Leadership</b>		
	Leading and managing others	Hold self and others accountable for organizational goal attainment
	Change management	Promote and manage change
	Ability for honest self-assessment	Demonstrate reflection through self-assessment
	Systems thinking	Be able to assess the potential impacts and consequences of decisions in a broad variety of situations
	Problem-solving and decision-making	Apply evidence-based decision making techniques to health care questions
<b>III. Professionalism</b>		
	Personal and professional ethics	Adhere to ethical business principles; exhibit ethical behaviors
	Professional and community contribution	Participate in community service; balance professional and personal pursuits
	Working in teams	Create, participate in and lead teams, including inter-professionalism
<b>IV. Knowledge of the health care environment</b>		
	Health care issues and trends	Demonstrate knowledge of circumstances causing major changes and reform in U.S. health care delivery
	Health care legal principles	Discuss and critically analyze health-related legal principles including standards, regulations and risk management

	Health policy	Articulate the impact of select health policies on the delivery of health services
	Population health and status assessment	Understand and explain the major factors in health status to healthcare professionals
<b>V. Business and analytical skills</b>		
	Financial management	Demonstrate the ability to compile and analyze financial data; develop capital, operating and cash flow budgets; analyze investment data; pro forma development
	Human resources	Apply methods and techniques related to the management of health care organization employees and professional staff
	Organizational dynamics and governance	Understand and be able to explain the roles, responsibilities, structures and influence governing bodies hold in health care organizations
	Strategic planning	Ability to perform environmental analysis; discern competitive strategy; formulate business strategy based on evidence
	Marketing	Analyze and assess markets, market segmentation, strategy, change and innovation
	Information management/ understanding and using technology skills	Apply techniques and methods to plan, design, implement and assess information flow and communication
	Quality improvement/ performance improvement	Apply concepts of process improvement and patient safety to relevant problems
	Quantitative skills	Analyze data and interpret quantitative information
	Planning and managing projects	Design, plan, implement and assess projects related to performance, structure and outcomes of health services
	Economic analysis and application	Analyze and apply economic theory and concepts to business decisions

#### Admission requirements

Application procedures and admission requirements for the M.S.H.A. program are different than other courses of study offered by the university, so interested individuals should contact the department. The material can be obtained through the [department Web site](#). Applications are accepted beginning in September for admission to the program in July of the following year. The application deadline is March 1.

The M.S.H.A. program admits individuals with diverse educational, work and life experiences who have the demonstrated capacity to pursue a rigorous course of professional graduate study.

To be considered for admission, applicants must, at a minimum:

- Possess a baccalaureate degree from an institution of higher learning recognized by VCU and have a 2.75 GPA for all undergraduate work completed.
- Have five years of professional health care work experience.
- Submit scores on a standardized aptitude test for graduate studies (GRE or GMAT).
- Submit a resume and personal statement.

Requests for further information regarding admission requirements may be directed to the director, M.S.H.A. Program by calling (804) 828-7799

#### Previous educational experience

Applicants with less than a 2.75 undergraduate GPA who have exceptional professional experience will be considered for admission on provisional status. Provisional status will be removed after satisfactory completion of the first semester of the program. If an applicant has completed any graduate studies (whether or not a degree was awarded), performance in such course work will be considered in the admission decision.

#### Professional work experience

Applicants are expected to be employed in the health care field and have at least five years of professional health care work experience as documented in a professional resume. The specific experience profile deemed appropriate for admission to the professional program depends upon one's particular profession or occupation. The resume is a very important element of the application materials. Applicants are encouraged to prepare the resume in such a way that it accurately and completely describes their accomplishments.

#### Graduate studies aptitude tests

VCU requires that all applicants for graduate study submit standardized aptitude test scores. The professional program will accept scores on either the GMAT or the GRE. Applicants who have taken the GMAT or GRE in the last five years may submit previous scores. Those applicants holding certain graduate or professional doctoral degrees (for example, M.D., D.D.S., J.D., Pharm.D., Ph.D.) may have GMAT or GRE requirements waived upon petition to the graduate dean. Applicants should make arrangements to take the examination of their choice at the earliest possible date.

#### Prerequisites

No specific previous course work is required for application to the program. Upon formal acceptance, students will be provided, at cost, independent-study modules in three areas: microeconomics, accounting and statistics. These modules include books, articles, programmed instruction handbooks and computer-aided instructional material. These must be completed prior to beginning the program. Completing these independent-study modules precludes the need for taking prerequisite course work prior to instruction. Applicants having acceptable previous course work in accounting, microeconomics and/or statistics will not be required to complete these independent-study modules. Generally, these courses must be completed within five years of starting the program.

### Curriculum

Students are required to complete a total of 41 semester hours (including transfer credit, if any) to qualify for the Master of Science in Health Administration degree. The curriculum consists of 14 courses listed below that must be completed by all degree candidates.

<b>Fall I</b>	<b>Credits</b>
HADE 602 Health System Organization, Financing and Performance	3
HADE 624 Health Economics	3
HADE 646 Health Care Organization and Leadership	3
<b>Spring I</b>	
HADE 606 Health Care Managerial Accounting	3
HADE 610 Health Care Management Decision Support Systems	3
HADE 615 Health Care Politics and Policy	3

HADE 647 Management of Health Care Organizations	3
<b>Fall II</b>	
HADE 607 Financial Management in Health Organizations	3
HADE 609 Managerial Epidemiology	2
HADE 611 Health Care Law and Bioethics	3
HADE 612 Information Systems for Health Care Management	3
<b>Spring II</b>	
HADE 614 Health Care Marketing	3
HADE 648 Strategic Management in Health Care Organizations	3
HADE 649 Human Resources Management in Health Care	3
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The program's courses are designed to meet the distinctive needs of the experienced health care professional. Courses develop business skills for the unique health care environment so that students are prepared to meet the challenges of the health care marketplace. Classes draw upon the knowledge of the faculty and the diverse group of experienced professionals enrolled.

Each semester is composed both of on-campus and off-campus sessions. During the six one-week on-campus sessions, students attend professional program classes on the MCV Campus. During the off-campus session of each semester, students continue studies at their home or work site, employing a carefully planned array of distance-learning technologies.

### On-campus study

During the 22-month curriculum, students spend six one-week sessions on the MCV Campus. On-campus sessions are held during July/August, December and May. Dates for on-campus sessions for the current academic year are on the department Web site.

During on-campus sessions, students attend lectures, participate in seminars, and use the department's computer facilities and the VCU library. Ample opportunity is provided to interact with other colleagues, faculty and visiting scholars and practitioners. Courses meet during the day and may, on occasion, extend to evenings. Sessions do extend and meet over weekends. Most evenings are reserved for study, group project work, informal interaction, relaxation and planned social events.

All courses are designed carefully to facilitate effective and efficient learning. Detailed outlines of lectures, handouts and comprehensive learning/study guides are provided as appropriate for each course.

While in residence at the university, students stay in conveniently located hotels. Meals can be obtained for reasonable prices in the hotel or at a wide variety of restaurants in the immediate area. Students are encouraged to take advantage of the university's recreational facilities and the cultural and entertainment opportunities of Richmond and the surrounding area.

### Off-campus study

During the off-campus session, students continue course work at their places of residence and/or employment. Full-time students are expected to devote a minimum of 15 to 20 hours per week to study during the off-campus period of each semester. They employ a variety of distance learning technologies in their studies.

#### Internet-based courses

The Department of Health Administration was a leader in developing online course software. Each course has its own electronic classroom. Faculty members distribute announcements and assignments, and conduct seminars and forums. Students can chat online, take practice quizzes and listen to recorded messages from faculty. Use of system capabilities varies by course.

The Web site and the Web-based technology are designed with the computer novice in mind. Students are trained to use the software and can receive support from our computer instructor as well as faculty.

### Equipment requirements



All those admitted to the M.S.H.A. program must have access to a multimedia personal computer. Specific hardware and software requirements are available from the department. In addition, students must be able to access the Internet from their personal computer. Access is usually obtained through a local Internet service provider by purchasing an Internet subscription.

Program faculty members strongly recommend having access to a personal computer at home, not just at the office.

## Academic policies and regulations

Academic policies and regulations are set forth in separate documents published by the Department of Health Administration. These documents are reviewed during orientation sessions. The university-wide policies and regulations are available online. They are reviewed during orientation sessions.

## Financial considerations

Interested students should contact the department for current tuition and fee information. In addition to tuition and fees, students will need to budget for the following expenses:

- Computer equipment and online connections.
- Textbooks and reading packets.
- Travel, meals, lodging and personal expenses associated with attending the on-campus sessions in Richmond.

Applicants are encouraged to consult a tax adviser regarding the rules and procedures governing educational deductions for income taxes.

If accepted to the professional program, students will be required to forward a nonrefundable payment of \$500 to hold a place in the class. This payment is applied to first semester tuition and fees. Full payment for tuition and fees is due approximately 30 days prior to the beginning of each semester.

## Health Administration, Master of (M.H.A.)

### Admission requirements summary

Health Administration, Master of (M.H.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.H.A.	Fall	Priority: Feb 1	GRE or GMAT
Special requirements: Refer to the Web for recent changes in admissions policies, including minimum computer-based TOEFL score of 250 and minimum 3.0 GPA <a href="http://www.had.vcu.edu/prospect/mha">www.had.vcu.edu/prospect/mha</a>			

The graduate program in health administration is designed to prepare persons for administrative roles ultimately leading to top-level executive positions in complex health services organizations. The curriculum emphasizes strategic and operational management, thus orienting students toward the broad spectrum of managerial problems and functions likely to be encountered by health services organizations.

The program's educational objectives and content are based upon the premise that a large number of students who select this curriculum aspire to become senior executives of health care organizations at some point in their careers. The graduate program in health services administration is designed for full-time students.

The graduate program was accredited initially in 1968, one of the first programs in the United States to achieve that status. It has continuously maintained its national accreditation status, and in 2011 the program was awarded a six-year accreditation.

### Student learning outcomes

Goal/domain	Competency	Description/learning outcomes
<b>I. Communication and relationship management</b>		
	Interpersonal communication	Build collaborative relationships and negotiation skills

	Writing skills	Prepare business communications
	Presentation skills	Demonstrate effective oral communication and presentation skills
<b>II. Leadership</b>		
	Leading and managing others	Hold self and others accountable for organizational goal attainment
	Change management	Promote and manage change
	Ability for honest self-assessment	Demonstrate reflection through self-assessment
	Systems thinking	Be able to assess the potential impacts and consequences of decisions in a broad variety of situations
	Problem-solving and decision-making	Apply evidence-based decision making techniques to health care questions
<b>III. Professionalism</b>		
	Personal and professional ethics	Adhere to ethical business principles; exhibit ethical behaviors
	Professional and community contribution	Participate in community service; balance professional and personal pursuits
	Working in teams	Create, participate in and lead teams, including inter-professionalism
<b>IV. Knowledge of the health care environment</b>		
	Health care issues and trends	Demonstrate knowledge of circumstances causing major changes and reform in U.S. health care delivery
	Health care legal principles	Discuss and critically analyze health-related legal principles including standards, regulations and risk management
	Health policy	Articulate the impact of select health policies on the delivery of health services
	Population health and status assessment	Understand and explain the major factors in health status to health care professionals
<b>V. Business and analytical skills</b>		
	Financial management	Demonstrate the ability to compile and analyze financial data; develop capital, operating and cash flow budgets; analyze investment data; pro forma development

	Human resources	Apply methods and techniques related to the management of health care organization employees and professional staff
	Organizational dynamics and governance	Understand and be able to explain the roles, responsibilities, structures and influence governing bodies hold in health care organizations
	Strategic planning	Ability to perform environmental analysis; discern competitive strategy; formulate business strategy based on evidence
	Marketing	Analyze and assess markets, market segmentation, strategy, change and innovation
	Information management/ understanding and using technology skills	Apply techniques and methods to plan, design, implement and assess information flow and communication
	Quality improvement/ performance improvement	Apply concepts of process improvement and patient safety to relevant problems
	Quantitative skills	Analyze data and interpret quantitative information
	Planning and managing projects	Design, plan, implement and assess projects related to performance, structure and outcomes of health services
	Economic analysis and application	Analyze and apply economic theory and concepts to business decisions

## Admission requirements – M.H.A. and dual degree programs

Applications are encouraged from persons who have earned undergraduate or graduate degrees in any discipline or field of study. However, to be eligible for admission to the graduate program, completed course work must include basic preparation in microeconomics, financial accounting and business statistics. In addition, a working knowledge of college-level algebra is necessary preparation for the graduate program's courses.

The prerequisite requirements may be met by the following specifications:

- completing specified prerequisite courses with a grade of "C" or better within the past five years at any accredited college or university or
- providing other evidence of competency acceptable to the admissions committee.

Any or all of the three prerequisite courses may be taken in VCU's School of Business during the summer session immediately before the fall semester when the student enrolls in the graduate program in health administration. The courses provide an excellent opportunity for students without a strong background in business to fulfill the course work requirements for entrance into the graduate program.

To be considered for admission into the graduate program in full status, the applicant must meet the following minimum qualifications: (1) present evidence of personal achievement, scholarship, intellectual ability and professional promise, (2) hold a baccalaureate or graduate degree from a college or university that is fully accredited by the Association of American Universities or by a regional accrediting agency, (3) have an overall GPA of 3.0 or higher on a 4.0 scale in undergraduate work or provide evidence of high achievement in a substantial

amount of graduate-level course work, (4) attain a satisfactory score (at least 50th percentile in each category) on the Graduate Record Examination or the Graduate Management Aptitude Test, and (5) other factors such as personal interview and prior work experience. Enrollment in the program is limited and competition is strong. Meeting the minimum qualification above is not generally sufficient for admission.

Applicants who have completed the prerequisite course work and meet the other requirements may be admitted into the graduate program in full status. Full status is maintained as long as the student achieves a GPA of 3.0 in all course work each semester.

If an applicant presents qualifications that approximate the admissions requirements and standards, that applicant may (at the discretion of the Admissions Committee) be admitted into the graduate program on provisional status. Advancement to full status may be approved by the faculty when the student has satisfactorily completed one or more semesters of graduate studies. Students admitted on provisional status who do not meet GRE/GPA standards will be reviewed by the faculty for dismissal from the program or continuation on probationary status at the end of their first semester of graduate studies if they have not earned at least a 3.0 GPA for all courses attempted or if they have earned a grade of less than "C" in any course. Complete information regarding academic requirements and standards is set forth in Academic Policies and Regulations for the Graduate Programs in Health Administration (M.H.A. and M.S.H.A.).

VCU is a state-aided institution, and preference is given to applicants with equal qualifications who are Virginia residents. International applicants must meet all the regular admission requirements, score a minimum of 600 on the Test of English as a Foreign Language, submit evidence of a preapproved residency site in the home country and submit evidence of financial responsibility as stated in the [Graduate Studies at VCU](#) section of this bulletin.

Application forms and instructions for applying to all graduate programs are available on the [Graduate School Web site](#).

Requests for further information regarding admission requirements, standards and procedures may be directed to the Director, M.H.A. Program, Department of Health Administration, Virginia Commonwealth University, P.O. Box 980203, Richmond, VA 23298-0203.

### Admission for VCU Honors students

VCU Honors Students are eligible to apply for admission to the M.H.A. Program during their junior or senior years of undergraduate study. The application process is the same as for other applicants with the following exceptions: (1) requirements for the GRE or GMAT are waived; (2) application fee is waived; and (3) official transcript is not needed (as grades can be accessed in the VCU system). The admission decision will be made by the M.H.A. Admissions Committee, at which time a place will be reserved for the student, provided the student graduates with honors and completes the prerequisite course work.

## Curriculum

Students are required to complete a total of 59 semester hours (including transfer credit, if any) to qualify for the Master of Health Administration degree. This requirement includes 48 hours of core course work plus at least three semester hours of elective studies in health administration and related disciplines, such as business administration, public health, urban and regional planning, and gerontology. In addition, eight semester hours of practicum course work are required as a part of the administrative residency. The graduate program is designed to provide a balanced combination of academic studies and field experience to enable students to achieve the program's educational goals and become well-prepared to enter the field of health administration.

The core curriculum of the graduate program in health administration consists of 19 courses totaling 51 semester hours that must be completed by all M.H.A. degree candidates. These courses represent an integrated series of learning experiences designed to provide students with a common body of knowledge and skills which are considered to be essential to completion of the administrative residency.

### M.H.A. curriculum

	Credits
<b>Fall I</b>	
HADM 602 Health System Organization, Financing and Performance	3

HADM 606 Health Care Managerial Accounting	3
HADM 609 Managerial Epidemiology	2
HADM 646 Health Care Organization and Leadership	3
HADM 681 Clinical Concepts and Relationships	2
HADM 682 Executive Skills I	1

**Spring I**

HADM 607 Financial Management in Health Organizations	3
HADM 610 Health Care Management Decision Support Systems	3
HADM/ECON 624 Health Economics	3
HADM 647 Management of Health Care Organizations	3

**Fall II**

HADM 608 Seminar in Health Care Finance	3
HADM 612 Information Systems for Health Care Management	3
HADM 615 Health Care Politics and Policy	3
HADM 683 Executive Skills II	1
Elective	3

**Spring II**

HADM 611 Health Care Law and Bioethics	3
HADM 614 Health Care Marketing	3
HADM 648 Strategic Management in Health Care Organizations	3
HADM 649 Human Resources Management in Health Care	3

**Fall III\***

HADM 694 Practicum in Health Administration I	5
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**Spring III\***

HADM 695 Practicum in Health Administration I	3
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Students in dual-degree programs (M.H.A. /M.D. or M.H.A. /J.D.) shall follow the curriculum plan as outlined in the respective section for each degree.

## Academic policies and regulations

Academic policies and regulations for the graduate program in health services administration are set forth in separate documents published by the Department of Health Administration. These departmental documents, as well as publications that state university-wide policies and regulations, may be obtained by applicants at the time of their interviews.

## Transfer credit

Applicants who have earned graduate credit elsewhere or at VCU that has not been previously applied to another earned degree may, at the discretion of the faculty, be permitted to transfer a maximum of one third the didactic semester hours to apply toward the degree credit requirements. Transfer credit may be allowed when, in the judgment of the faculty, the applicant has satisfactorily completed graduate course work elsewhere that is equivalent to courses in the graduate curriculum.

Petitions to transfer credit are to be prepared by the applicant and submitted to the program director prior to entering the program. It is the applicant's responsibility to establish: (1) that the institution has at least regional accreditation, (2) that the course was completed with a grade of "B" or better within the last five years and was not previously applied to an earned degree, and (3) that the course is equivalent to a required or elective course appropriate to the M.H.A. curriculum. (A course syllabus or detailed letter from the instructor, which describes the purpose, objectives, content and course readings will ordinarily be required.) The program director ensures that the petition is sufficiently documented and refers it to the primary instructor of the related course or courses. The primary course instructor reviews and notes a recommendation on the petition and forwards it to

the program director for final approval and communication to the Graduate School.

## Administrative residency

### Purpose of the residency

The administrative residency is an integral part of VCU's graduate program in health services administration. The basic purpose of the residency is to provide students opportunities to apply and further develop their administrative knowledge and skills through a period of applied experience in an operational setting. The administrative residency is supervised directly by experienced executives who serve as the students' preceptors.

Through a carefully selected and organized residency experience, students strengthen the foundation of general knowledge and skills gained through the core curriculum and develop further insight and expertise in their selected concentrations. Students serve their residency in the type of health care organization in which they wish to gain specialized knowledge, skills and experience. Overall policies and guidance for the administrative residency are established by the Department of Health Administration and are included in Handbook for the Administrative Residency of the Graduate Program in Health Administration.

### Appointment to the residency

Students become eligible for entrance into the administrative residency after completing 52 semester hours of specified course work and achieving an overall GPA of 3.0. Students on academic probation or with any incomplete grades during their final on-campus semester prior to their residency may, at the discretion of the faculty, be prevented from entering their residency although their overall GPA is 3.0 or higher.

In addition to meeting the above academic requirements, the student must, in the judgment of the faculty, present evidence of readiness for a clinical experience by demonstrating sufficient academic proficiency in the core areas of the curriculum and by demonstrating professional maturity.

The director of the M.H.A. program or his/her designee has the responsibility to coordinate residency placements. In making these assignments, the director will consider the preferences of the students, the preferences of the preceptors and the recommendations of faculty advisers. Students' preferences may not always be met. Administrative residents are paid a salary by the organization in which they are being sponsored.

### On-campus commitments during the residency

During the residency phase of the graduate program, students must attend scheduled on-campus seminars and must participate in a series of distance-learning seminars on topics related to the residency experience. During the on-campus seminar, students will participate actively in other educational activities associated with course work HADM 693, 694 and 695 taken during the residency year.

### Residency policies and procedures

A complete statement of academic policies and procedures relating to the administrative residency phase of the graduate program is set forth in Administrative Residency Policies and Procedures, in the Handbook for the Administrative Residency of the Graduate Program in Health Administration.

### Length of the program

Students ordinarily will begin their studies during the fall semester and complete their course work requirements within 21 months. For most students, this portion of the graduate program will be followed by an administrative residency of 12 months. The M.H.A./J.D. dual-degree program normally requires four years of study, and the M.H.A./M.D. dual-degree program normally requires five years of study.

## Requirements for graduation

To qualify for the Master of Health Administration degree, students must meet the following requirements: (1) achieve an overall GPA of 3.0 on a 4.0 scale for all graduate curriculum course work, (2) satisfactorily complete all requirements of the administrative residency including required course work taken during the period, (3) satisfactorily complete an oral seminar administered near the end of the graduate program and, (4) in the judgment of the faculty, demonstrate sufficient

maturity, development and abilities in health services administration to constitute readiness to enter the profession of health administration.

Degrees are conferred at commencement exercises of the university in December and May.

### Combined Doctor of Medicine (M.D.) and Master of Health Administration (M.H.A.)

Students may indicate their interest in the combined program prior to matriculation or during the first three years of the M.D. program.

Advanced study in health administration and medicine is available through a dual-degree program co-sponsored by the department of Health Administration and the VCU School of Medicine. The program leads to the awarding of the Doctor of Medicine and Master of Health Administration degrees. The objective of the M.D./M.H.A. program is to provide highly motivated medical students the expertise for management and leadership competency in complex health care organizations. The joint program may be completed in five years. Applicants for this program are required to meet the admission requirements of each program. For information regarding the dual-degree program, contact the director of the program.

For the combined degree program, course work for the M.H.A. is initiated following completion of the first two or three years of the M.D. program, occupies a full academic year (fall, spring and summer) and extends into a second year, and is taken during a hiatus from the third or fourth year of the M.D. program.

Students interested in the program may contact the School of Medicine Office of Curriculum or the Director of the M.H.A. Program, Department of Health Administration (School of Allied Health Professions).

For additional information refer to the School of Medicine handbook available on the school's Web site at [www.medschool.vcu.edu](http://www.medschool.vcu.edu).

#### Curriculum

Fall I	Credits
HADM 602 Health System Organization, Financing and Performance	3
HADM 606 Health Care Managerial Accounting	3
HADM 612 Information Systems for Health Care Management	3
HADM 615 Health Care Politics and Policy	3
HADM 646 Health Care Organization and Leadership	3
HADM 682 Executive Skills I	1
<b>Spring I</b>	
HADM 607 Financial Management in Health Organizations	3
HADM 610 Health Care Management Decision Support Systems	3
HADM/ECON 624 Health Economics	3
HADM 647 Management of Health Care Organizations	3
HADM 649 Human Resources Management in Health Care	3
<b>Summer I</b>	
HADM 693 Internship in Health Administration	3
<b>Fall II</b>	
No MHA course commitments; return to M.D. program	
<b>Spring II</b>	
HADM 611 Health Care Law and Bioethics	3
HADM 614 Health Care Marketing	3
HADM 648 Strategic Management in Health Care Organizations	3
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### Combined Master of Health Administration (M.H.A.) and Juris Doctor (J.D.)

Advanced study in health administration and law is available through dual degree programs co-sponsored by the department and the schools of law at the University of Richmond and at Washington and Lee University. The program leads to the awarding of the Master of Health Administration and Juris Doctor degrees. Participants are provided the necessary expertise either to represent clients within the health care industry or to function as legal policy-makers or administrators who fully appreciate the legal environment of the health care field. Applicants for this program are required to meet the admission requirements of each program. For information regarding the dual degree program, contact the director of the program.

#### Curriculum

Fall I	Credits
HADM 602 Health System Organization, Financing and Performance	3
HADM 606 Health Care Managerial Accounting	3
HADM 609 Managerial Epidemiology	2
HADM 646 Health Care Organization and Leadership	3
HADM 681 Clinical Concepts and Relationships	2
HADM 682 Executive Skills I	1
<b>Spring I</b>	
HADM 607 Financial Management in Health Organizations	3
HADM 610 Health Care Management Decision Support Systems	3
HADM/ECON 624 Health Economics	3
HADM 647 Management of Health Care Organizations	3
<b>Summer I</b>	
HADM 693 Internship in Health Administration	3
<b>Fall II</b>	
HADM 608 Seminar in Health Care Finance	3
HADM 612 Information Systems for Health Care Management	3
HADM 615 Health Care Politics and Policy	3
HADM 683 Executive Skills II	1
<b>Spring II</b>	
HADM 614 Health Care Marketing	3
HADM 648 Strategic Management in Health Care Organizations	3
HADM 649 Human Resources Management in Health Care	3
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### Health Services Organization and Research, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Health Services Organization and Research, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Apr 15	GRE or GMAT
		Applications received by Dec 15 given priority for funding	TOEFL for international students
		(Applications reviewed throughout year)	
Special requirements: Visit <a href="http://www.had.vcu.edu">www.had.vcu.edu</a> , select prospective students, doctoral program			

The Ph.D. in Health Services Organization and Research program is a challenging 57-credit program that prepares individuals for positions as faculty, researchers, policy analysts and top-level staff in complex health organizations. Students learn to apply research methods and scientific knowledge drawn from the behavioral and managerial sciences to the study of health organizations, services and systems. The program is designed to meet the distinctive professional development needs of (1) clinical professionals who want to prepare for positions as faculty and independent researchers, (2) administrative professionals who want to prepare for positions as faculty, researchers or consultants, and (3) researchers and policy analysts who want to create depth through specialization in health services organization and research.

Courses are distributed across four areas: foundations of health services organization and research (nine credit hours), health services organization theory (12 credit hours), health services research methods (18 credit hours), and an area of specialization (nine credit hours). Students take two written comprehensive examinations, covering health services organization theory and health services research methods. Areas of specialization are drawn from elective courses and from independent study with faculty members in their areas of expertise, such as long-term care, mental health services, managed care, quality management or international health. The course work is sequenced so that it can be completed in two years of full-time study (exclusive of dissertation credits). In addition, nine credit hours of dissertation credit are required. Students orally defend a written dissertation proposal before their dissertation committee. Subsequently they write and orally defend the completed dissertation.

#### Student learning outcomes

- Foundational knowledge of health care
  - Display comprehensive knowledge of the context of health care systems, institutions, actors and environment.
- Theoretical knowledge
  - Apply organizational theoretical and conceptual models relevant to health services research.
- Generate research questions and hypotheses
  - Review, critique and synthesize a body of research, identifying significant gaps in knowledge, methods and study subjects to develop research questions and testable hypotheses.
- Study design
  - Select appropriate interventional (experimental and quasi-experimental) or observational (quantitative, qualitative or mixed) study designs to address health services research questions.
  - Use a conceptual model to specify study constructs and develop valid and reliable variables to measure the constructs.
- Data collection and management
  - Sample and collect primary health and health care data and/or assemble and manage existing data from public or private sources.
- Ethical conduct of research
  - Describe procedures that ensure the ethical and responsible conduct and dissemination of research.
- Data analysis and interpretation
  - Apply rigorous quantitative and qualitative analytical strategies to specific research questions.
  - Demonstrate ability to interpret results of data analysis.
- Communication and knowledge transfer
  - Effectively communicate issues, research findings and implications of health services research verbally and in writing to appropriate professional, scientific, student, policy and lay audiences.
- Integration
  - Develop and conduct original research that includes identifying the research question, selecting the theoretical framework, developing a study design, using appropriate methodologies, conducting the analysis and interpreting the results.

### Admission procedures and requirements

The program admits students with diverse educational, work and life experiences who have demonstrated a capacity to pursue a rigorous course of doctoral study. Admission is limited, competitive and open to students with clear career goals in health services administration and research.

Admission requirements include (1) a graduate degree in an academic or professional field with a GPA of B or higher, (2) working knowledge of college-level algebra, especially matrix algebra, (3) advanced courses in statistics and economics, (4) a score at least at the 50th percentile on the verbal and quantitative sections of the GRE, (5) for international students, scores from the Test of English as a Foreign Language, (6) transcripts and application forms, (7) three letters of recommendation, and (8) personal interviews with members of the Admissions Committee. The department recommends that candidates have at least one to two years experience in the health care industry before beginning the program. The application deadline is April 15, however applications are reviewed throughout the year.

### Department of Nurse Anesthesia

The program was first organized in 1969 as the School of Nurse Anesthetists, thus becoming the first academic program to be implemented in the newly organized School of Allied Health Professions on the MCV Campus.

A letter of intent for a proposed Master of Science in Nurse Anesthesia program was submitted to the commonwealth's Council on Higher Education in 1977. When approved in May 1978, the graduate degree in nurse anesthesia became the first such offering within the profession of nurse anesthesia. While of major importance to the university, it marked a significant milestone for the profession of nurse anesthesia. The first class of graduate students was admitted in the fall of 1979 and graduated in the fall of 1981. A second hallmark was achieved in 2007 with approval of the Doctor of Nurse Anesthesia Practice program. The DNAP program is the first post-master's practice doctorate for Certified Registered Nurse Anesthetists. A separate combined-degree track is available for students enrolled in the Master of Science in Nurse Anesthesia program. The first students matriculated in the combined degree MSNA-DNAP program in 2007 and the first CRNAs entered the post-master's DNAP program in January 2008.

### Administration

**Michael D. Fallacaro**

Professor and Department Chair

### Mission and philosophy

#### Mission

The mission of Virginia Commonwealth University is to provide a fertile and stimulating environment for learning, teaching, research, creative expression and public service. Essential to the life of the university is a faculty actively engaged in scholarship and creative exploration — activities that increase knowledge and understanding of the world and that inspire and enrich teaching.

The university is dedicated the educating full- and part-time students of all ages and diverse backgrounds in an atmosphere of free inquiry and scholarship so that they may realize their full potential as informed, productive citizens with a lifelong commitment to learning and service.

The mission of the Department of Nurse Anesthesia is to provide learners with the knowledge and skills necessary to serve the public through the delivery of safe, cost-efficient, quality anesthesia services and to develop leaders and scholars who will advance the specialty of nurse anesthesia through research, scholarship and public service. The department will achieve this mission by establishing an environment that values excellence, stimulates creativity and recognizes achievement.

#### Philosophy

The philosophy of the department reflects the core values of the faculty and provides the foundation for the curriculum. The department's philosophy is synergistic with the mission and goals of VCU and the School of Allied Health Professions.

The department is a social agency dedicated to the education and development of health care professionals in the specialty of nurse anesthesia. Consequently, the faculty recognizes and accepts the responsibility entrusted to it for the learning experiences for its graduate students.



The philosophical orientation of the faculty subscribes to the belief that learning is a developmental process through which cognitive, affective and psychomotor behaviors are developed and modified. This process includes the acquisition of information, the transfer and application of knowledge, the evaluation of new skills, and the development of a professional attitude and bearing.

The faculty subscribes to the belief that the learning process is both positive and rewarding for the student; that it is a transaction between the student and teacher executed through formal and informal processes with an objective to prepare knowledgeable and skillful graduates. Hence, learning is a lifelong process that results in a change in thinking, valuing and behaving. The educational process includes teacher-learner interaction in setting goals, selecting and assessing learning experiences, determining instructional methods, and evaluating the learner's progress. Learning experiences are designed to facilitate continuity in attainment of knowledge, skills and attitudes consistent with educational objectives, the individual needs of students and safe patient care. Students are respected as unique individuals possessing dignity, worth and the right to equity in educational opportunities. Faculty and students share the responsibility for creating an educational climate that reflects democratic values, fosters intellectual inquiry and creativity, and encourages the maximum development of each individual's potential.

The American health care system is becoming progressively complex. Technological advances and changing economic patterns foster competition for scarce resources while the patient population is becoming quite diverse. As a result, the role of the CRNA is becoming increasingly collaborative and complementary with other health professionals. In this environment, CRNAs have more responsibility and authority for coordination, decision-making and leadership of the multidisciplinary team, as well as for research, planning and development of health resources.

Graduate education in nurse anesthesia at the master's level builds upon baccalaureate education with a nursing focus. It is designed to allow graduates the opportunity to become leaders and make significant contributions with the intended outcome of improving health care and advancing nurse anesthesia theory and practice through research. Consequently, the program prepares CRNAs through a team concept of a joint practice of anesthesia care composed of both nursing and medical components to meet the current and emerging health needs of society.

## Nurse anesthesia courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to nurse anesthesia (NRSA) courses or the (NRSZ) laboratory.

### Nurse Anesthesia Practice, Doctor of (D.N.A.P.)

#### Admission requirements summary

Nurse Anesthesia Practice, Doctor of (D.N.A.P.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
D.N.A.P.	Full-time: fall only  Part-time: fall only	Ongoing; applications received by Mar 1 given priority consideration	GRE
Special requirements: <a href="#">See the department's Web site</a> for specific admission requirements			

The objective of the program is to prepare certified registered nurse anesthetists to meet patient needs for high quality, safe anesthesia care in increasingly complex health environments, and to develop insightful, visionary leaders and educators in the specialty of nurse anesthesia.

#### Student learning outcomes

Graduates of the program will be able to:

- Apply physiological, safety and organizational theories to promote patient safety, enhance quality care and improve nurse anesthesia practice.
- Analyze and synthesize relevant scientific literature and apply results to improve nurse anesthesia practice and patient care outcomes in a culturally sensitive manner.

- Communicate effectively with patients, families, the public and other health professionals.
- Develop effective strategies for managing ethical dilemmas inherent in anesthesia patient care and the workplace.
- Employ teaching and learning principles in educating and counseling individuals, families, students-in-training and groups.
- Demonstrate leadership skills to meet the challenges of complex health care and educational environments.
- Demonstrate scholarship through presentations, publications, leadership activities and collaboration with other disciplines.
- Utilize technology and information systems to analyze, manage and present data.

#### Accreditation

Programs administered by the Department of Nurse Anesthesia are accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA, 222 South Prospect Avenue, Park Ridge, Illinois, 847-692-7050). The COA is recognized by the U.S. Department of Education and the Council on Higher Education Accreditation to accredit programs of nurse anesthesia at the master's, post-master's and doctoral levels. The DNAP was approved in May 2007.

## Admission requirements

In addition to the general Graduate School admission requirements, the requirements for admission to the Doctor of Nurse Anesthesia Practice are:

- A graduate degree from a regionally accredited university.\*
- Graduation from a nurse anesthesia educational program accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs.\*
- Certification by the Council on Certification of Nurse Anesthetists.\*
- Recertification by the Council on Recertification of Nurse Anesthetists (if past initial certification period).\*
- Current licensure as a registered nurse.
- Cumulative graduate GPA of 3.0 or higher on a 4.0 scale.
- Graduate Record Examination within five years of application.
- Resume.
- Personal statement including:
  - Reasons for seeking this educational opportunity.
  - Career goals and how having this degree will help you attain them.
  - Prior life/work experience that will be useful in your educational experience.
  - Potential areas of study for capstone project.
- Completed Graduate School application form.
- Three professional references.
- Personal interview (by invitation)

\*Not required in dual-degree option.

## Curriculum

(Full-time curriculum)

	Credits
<b>Fall semester I</b>	
ALHP 708 Ethics and Health Care	3
ALHP 760 Biostatistical Methods for Health Related Sciences	3
DNAP/NRSA 701 Human Factors and Patient Safety for Nurse Anesthetists	3
DNAP 789 Nurse Anesthesia Professional Practice	3
	<b>12</b>
<b>Spring semester I</b>	
ALHP 701 Health Services Delivery Systems	3
DNAP 702 Nurse Anesthesia Patient Safety Seminar	3
DNAP 711 Policy and Practice for Nurse Anesthetists	3
DNAP 799 Nurse Anesthesia Capstone Project	2

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**Summer semester I**

DNAP 712 Leadership in Nurse Anesthesia Education	3
DNAP 789 Nurse Anesthesia Professional Practice	3
DNAP 799 Nurse Anesthesia Capstone Project	4
	<b>10</b>

**Nurse Anesthesia, Master of Science in (M.S.N.A.)****Admission requirements summary**

Nurse Anesthesia, Master of Science in (M.S.N.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.N.A.	Fall only	Applications received by Oct 1 given priority consideration	GRE
Special requirements: Contact department for specific <a href="#">admission requirements</a>			

The overall objective of the Master of Science in Nurse Anesthesia program is to prepare graduates who have acquired knowledge, skills and competencies in patient safety, perianesthetic management, critical thinking and communication to fulfill their professional responsibility as certified registered nurse anesthetists.

**Student learning outcomes**

Upon completion of the program, the graduate will:

- Plan, organize, deliver and evaluate safe anesthesia care
- Design, implement and evaluate perianesthetic care
- Incorporate critical thinking into ongoing professional practice
- Evaluate the postoperative course of a patient
- Assimilate into practice effective and culturally competent written, verbal and nonverbal communication with patients and families, other individuals involved in patient care and the public
- Assume responsibility for professional behavior

**Accreditation**

The nurse anesthesia program is fully accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. Graduates are eligible to take the examination for certification conducted by the Council on Certification of Nurse Anesthetists.

**Admission requirements**

In addition to the general university requirements, the requirements for admission to the Master of Science in Nurse Anesthesia Program are:

- Baccalaureate degree in nursing/related sciences
- Current licensure as a registered professional nurse in Virginia (by completion of the first semester)
- Cumulative undergraduate GPA of 3.0 or higher on a 4.0 scale (preferred)
- Upper-division undergraduate organic chemistry course or a Web-based medicinal chemistry prep course offered through VCU's Department of Chemistry [contact (804) 828-9808]
- Completion of the GRE within five years of application
- A minimum of one year's experience in an area of acute/critical care nursing (recent)
- Personal interview with members of the Admission Committee (by invitation)
- Three professional references (one must be from an immediate supervisor with contact phone number attached)

Further inquiries should be made to the Graduate School, Virginia Commonwealth University, P.O. Box 843051, Richmond, VA 23284-3051, (804) 828-6916. See the [Department of Nurse Anesthesia website](#) for more information.

**Curriculum and graduation requirements****Curriculum****Credits****Fall semester I**

NRSA 601 Principles and Practice of Nurse Anesthesia I	3
NRSZ 601 Laboratory in Principles and Practice of Nurse Anesthesia I	1
NRSA 620 Advanced Health Assessment for Nurse Anesthetists I	1
PHIS 501 Advanced Mammalian Physiology I	5
PHTX 515 Pharmacology for Nurse Anesthetists I	3
Elective: NRSA 611 Advanced Physiological Concepts for the Nurse Anesthetist	(1)

13/(14)

**Spring semester I**

MEDC 532 Medicinal Chemistry for Nurse Anesthetists	3
NRSA 603 Principles and Practice of Nurse Anesthesia III	3
NRSA 621 Advanced Health Assessment for Nurse Anesthetists II	1
NRSA 622 Clinical Practicum I	1
NRSA 683 Research Methods in Nurse Anesthesia Practice	3
PHTX 516 Pharmacology for Nurse Anesthetists II	3

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**Summer session I**

NRSA 602 Principles and Practice of Nurse Anesthesia II	3
NRSA 623 Clinical Practicum II	3
NRSA 633 Pathophysiology for Nurse Anesthesia	3
NRSA 642 Professional Aspects of Anesthesia Practice I	1

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**Fall semester II**

NRSA 604 Principles and Practice of Nurse Anesthesia IV	2
NRSA 624 Clinical Practicum III	6
NRSA 645 Professional Aspects of Nurse Anesthesia Practice II	1

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**Spring semester II**

NRSA 605 Principles and Practice of Nurse Anesthesia V	2
NRSA 625 Clinical Practicum IV	6
NRSA 647 Professional Aspects of Anesthesia Practice III	1

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**Summer session II**

NRSA 626 Clinical Practicum V	6
NRSA 684 Evidence-based Decision Making in Nurse Anesthesia	3

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**Fall session III**

NRSA 627 Clinical Practicum VI	6
NRSA/DNAP 701 Human Factors and Patient Safety for Nurse Anesthetists	3

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**Total credit hours**

73/(74)

**Graduation requirements**

Candidates for the degree of Master of Science in Nurse Anesthesia must be recommended by the faculty and:

- Complete all requirements for the prescribed curriculum.
- Earn a GPA of 3.0 or greater in all NRSA courses.
- Earn a cumulative GPA 3.0 or greater in all work presented for graduation.

- Meet all clinical requirements as specified by the Council on Accreditation of Nurse Anesthesia Educational Programs and Council on Certification of Nurse Anesthetists.
- Successfully complete the Self Evaluation Examination offered by the Council on Certification of Nurse Anesthetists and a written comprehensive examination.

### Combined Master of Science in Nurse Anesthesia (M.S.N.A.) and Doctor of Nurse Anesthesia Practice (D.N.A.P.)

See the individual program pages for admission requirements specific to the separate degrees.

The combined M.S.N.A./D.N.A.P. program integrates master's- and doctoral-level courses and awards a D.N.A.P. following successful completion of the M.S.N.A. The objective of the combined degree program is to prepare registered nurses with a baccalaureate degree for careers in nurse anesthesia that encompass professional practice, leadership and education. Students in the combined program can earn the doctorate in as little as one additional semester beyond the time required for the master's program. Students are eligible to sit for the national certification exam following completion of the M.S.N.A., allowing the opportunity to seek professional employment while completing the D.N.A.P.

Students who wish to enter into the combined degree option must first be admitted to the M.S.N.A. program. Matriculated M.S.N.A. students who wish to enter combined program may apply to the D.N.A.P. program in the second semester of the master's program. Applicants to the combined degree program must be enrolled in the M.S.N.A. program, have demonstrated good academic and clinical performance and be in good standing. Upon admission into the dual-degree program, students will enroll in courses applicable to both programs beginning in the fourth semester.

Graduates of the combined program will meet the objectives of both the M.S.N.A. and D.N.A.P. programs, which are outlined on the individual program pages in this bulletin. Accreditation information is also available on the program pages, as well as in the [School of Allied Health Professions](#) section of this bulletin.

#### Admission requirements

Students applying to the combined degree program must first obtain admission into the M.S.N.A. program. Requirements for admission to the combined program are:

- A baccalaureate degree from a regionally accredited university.
- Acceptance into the VCU graduate program in nurse anesthesia.
- Current licensure as a registered nurse.
- Cumulative graduate GPA of 3.2 or higher on a 4.0 scale.
- Graduate Record Examination within five years of application.
- Resume.
- Personal statement including:
  - Reasons for seeking this educational opportunity.
  - Career goals and how having this degree will help you attain them.
  - Prior life/work experience that will be useful in your educational experience.
  - Potential areas of study for capstone project.
- Completed Graduate School application form.
- Three professional references.
- Personal interview (by invitation).

#### Sample curriculum

	Credits
<b>Fall semester I</b>	
NRSA 601 Principles and Practice of Nurse Anesthesia I	4
NRSA 601L Laboratory in Principles and Practice of Nurse Anesthesia I	1
PHIS 501 Mammalian Physiology	5
PHTX 515 Pharmacology for Nurse Anesthetists I	3
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#### Spring semester I

MEDC 532 Medicinal Chemistry for Nurse Anesthetists	3
NRSA 603 Principles and Practice of Nurse Anesthesia III	3
NRSA 622 Clinical Practicum I	1
NRSA 683 Research Methods in Nurse Anesthesia Practice	3
PHTX 516 Pharmacology for Nurse Anesthetists II	3
	<b>13</b>

#### Summer semester I

NRSA 602 Principles and Practice of Nurse Anesthesia II	3
NRSA 623 Clinical Practicum II	3
NRSA 633 Pathophysiology for Nurse Anesthetists	3
NRSA 642 Professional Aspects Anesthesia Practice I	1
	<b>10</b>

#### Fall semester II

ALHP 708 Ethics and Health Care	3
NRSA 604 Principles and Practice of Nurse Anesthesia III	2
NRSA 624 Clinical Practicum III	6
NRSA 645 Professional Aspects of Anesthesia Practice II	1
	<b>12</b>

#### Spring semester II

ALHP 701 Health Services Delivery Systems	3
NRSA 605 Principles and Practice of Nurse Anesthesia IV	2
NRSA 625 Clinical Practicum IV	6
NRSA 647 Professional Aspects of Anesthesia Practice III	1
	<b>12</b>

#### Summer semester II

DNAP 712 Leadership in Nurse Anesthesia Education	3
NRSA 626 Clinical Practicum V	6
NRSA 684 Evidence-based Decision Making in Nurse Anesthesia	3
	<b>12</b>

#### Fall semester III

ALHP 760 Biostatistical Methods for Health Related Sciences	3
DNAP/NRSA 701 Human Factors and Patient Safety for Nurse Anesthetists	3
DNAP 789 Nurse Anesthesia Professional Practice	6
	<b>12</b>

#### Spring semester III

DNAP 702 Nurse Anesthesia Patient Safety Seminar	3
DNAP 711 Policy and Practice for Nurse Anesthetists	3
DNAP 799 Nurse Anesthesia Capstone Project	6
	<b>12</b>

## Department of Occupational Therapy

The program in occupational therapy was initiated at Richmond Professional Institute in 1942. In 1965, the graduate program leading to a Master of Science degree in basic professional education in occupational therapy was initiated. The School of Occupational Therapy became a department in the School of Allied Health Professions in 1970.

### Administration

**Albert E. Copolillo**

Associate Professor and Department Chair

### Philosophy

The philosophy of the Department of Occupational Therapy embraces the philosophical base of occupational therapy stated by the American Occupational Therapy Association (1979):

Man is an active being whose development is influenced by the use of purposeful activity. Human beings are able to influence their physical and mental health and their social and physical environment through purposeful activity. Human life is a process of continuous adaptation. Adaptation is a change in function that promotes survival and self-

actualization. Biological, psychological and environmental factors may interrupt the adaptation process at any time throughout the life cycle, causing dysfunction. Purposeful activity facilitates the adaptive process. Purposeful activity (occupation), including its interpersonal and environmental components, may be used to prevent and mediate dysfunction and to elicit maximum function. Activity as used by occupational therapists includes both an intrinsic and a therapeutic purpose. (AOTA, [1979]. The philosophical base of occupational therapy. AJOT, 33, 785.)

## Mission

The primary mission of the Department of Occupational Therapy is the preparation of excellent, innovative, adaptable and responsible occupational therapists as professional leaders for the state and the nation.

In pursuit of this mission, the department:

- Fosters student commitment to scientific inquiry and professional competence, and promotes personal growth, balance and dedication to lifelong learning.
- Promotes faculty excellence and collaboration in teaching, scholarship and research that models integrity and competence.
- Collaborates with the community through education, consultation and the development of strong linkages with clinical educators and the community.
- Interacts dynamically with the occupational therapy profession and stakeholders, contributing proactively to the evolution of the profession.

## Facilities

The educational facilities of the Department of Occupational Therapy are located in the Theater Row building at 730 E. Broad St. During the professional master's degree program, fieldwork assignments are made for students in a wide range of clinics and agencies in the Richmond metropolitan area. A 24-week extended fieldwork requirement will be arranged in approved clinical education facilities throughout the United States.

## Programs

Three courses of study are offered:

1. A Master of Science in Occupational Therapy, a professional entry-level degree program, is designed for students who wish to become occupational therapists.
2. A post-professional Master of Science is available for registered occupational therapists.
3. A post-professional Occupational Therapy Doctorate also is available for registered occupational therapists.

## Academic regulations

Students are admitted to the occupational therapy programs with the expectation that they will direct maximum time and effort to the learning process. Outside activities must be scheduled by students for such dates and hours as permit full compliance with the time requirements for course work. Tardiness, lack of regular attendance or failure to meet deadlines for course assignments will not be excused because of employment or other outside activities.

To continue in the graduate curriculum, students are expected to maintain a cumulative GPA of 3.0 based on course work following matriculation.

- Graduate students who fail to maintain a 3.0 cumulative GPA or receive a grade of "D" (regardless of the cumulative GPA) will automatically be placed on probation and will be notified of probationary status.
- Conditions of probation: students must earn a quality point average during the semester of probation sufficient to result in a cumulative GPA of 3.0 in order to be removed from probationary status.

Students who are on probation due to receiving a "D" grade must retake that course, achieving a grade of "C" or better while also meeting all other academic standards.

Conditions of probation also may include recommendations for academic

counseling, assignments by individual instructors and other requirements identified by the Committee on Academic Standing and Student Progress. Conditions of probation will be detailed in a letter of notification of probation prepared by this committee.

Only one semester of academic probation is permitted in the program. If probationary students fail to meet academic standards (GPA of 3.0) in a second semester or do not successfully complete deficient courses, they will be considered for dismissal.

- As courses usually are offered only once a year and because early courses serve as prerequisites for later courses, students retaking a course or taking a reduced course load will have to continue under an adjusted curriculum plan. This will result in extending the student's time in the program.
- Students who receive an "F" grade in any required course will be considered for dismissal by the committee.
- University standards require that a graduate student must not have more than six semester hours or 20 percent of semester hours attempted, whichever is greater, with a grade of "C." Students who receive a grade of "C" on more than the allowable number of semester hours will be reviewed for possible academic termination by the Committee on Academic Standing and Student Progress. Students who are not terminated for this criterion will be placed on automatic probation.
- If a student withdraws or is terminated by the clinical faculty before the completion of the Level II Fieldwork course, the student will receive an "U" grade for the course.

If the student withdraws, is terminated or fails a fieldwork experience, the course may be repeated only upon approval by the Committee on Academic Standing and Student Progress in consultation with the department chair and the fieldwork coordinator. Students may be dismissed from the program or be allowed to continue contingent upon fulfilling remedial activities based on a plan prepared by the fieldwork coordinator and ratified by the committee. No more than one additional fieldwork experience will be rescheduled. The opportunity to reregister and repeat the fieldwork course is contingent upon the fieldwork coordinator's ability to locate another facility willing to offer a fieldwork experience to the student and upon the support of the committee. Level II Fieldwork must be completed no later than 24 months subsequent to the completion of the academic phase.

- To continue in good standing, students also are expected to:
  - Pay all fees.
  - Maintain personal attributes and ethical behaviors consistent with professional practice as defined in the Occupational Therapy Department Student Handbook.
  - Complete fieldwork requirements to the satisfaction of clinical and academic faculty.
- Although arrangements are made in advance, each student is reviewed prior to placement in the Level II Fieldwork education. Students must have satisfactorily completed courses prerequisite to that fieldwork experience and be recommended by the faculty. They must demonstrate professional behavior as specified in the ethical behaviors listed in the Occupational Therapy Department Student Handbook. Medical problems may delay or prevent fieldwork placement.

## Occupational therapy courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to occupational therapy (OCCT) courses.

**Occupational Therapy, Master of Science in (M.S.O.T.)**



**Admission requirements summary**

<b>Occupational Therapy, Master of Science in (M.S.O.T.)</b>			
<b>Degree:</b>	<b>Semester(s) of entry:</b>	<b>Deadline dates:</b>	<b>Test requirements:</b>
M.S.O.T.	Summer only	Dec 1 (Applications accepted between Aug 2 and Dec 1 by OTCAS.)	GRE
<b>Special requirements:</b>			
The VCU Graduate School application, \$50 application fee and an official copy of Graduate Record Exam scores from Educational Testing Service.			
For more information about the M.S.O.T. program, please see the Department of Occupational Therapy website at <a href="http://www.sahp.vcu.edu/occu/programs/entry">www.sahp.vcu.edu/occu/programs/entry</a> .			

The Department of Occupational Therapy offers a Master of Science in Occupational Therapy, a graduate educational program designed to prepare students for entry into the profession of occupational therapy. This program may be completed in seven consecutive semesters. Applications will be accepted from students who have completed at least three years of bachelor's degree course work (90 semester credits), however students are advised to complete a four-year curriculum leading to a B.S. or B.A. degree. The program includes academic courses, research activities and a minimum of 24 weeks of full-time fieldwork.

**Accreditation**

The professional master's degree program to become an occupational therapist is accredited by the Accreditation Council for Occupational Therapy Education, 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220; telephone (301) 652-2682.

**Student learning outcomes****SLO 1: Meet foundational requirements**

As part of a broad foundation in liberal arts and sciences, including biological, physical, social and behavioral sciences, students will be able to employ logical thinking, critical analysis, clinical reasoning and problem solving to demonstrate oral and written communication skills, innovative use of computer technology, knowledge of human structure and function, awareness of social development, and use of statistics to interpret tests and measurements. Objectives B.1.1-B.1.11 in ACOTE Standards

**SLO 2: Basic tenets of occupational therapy**

Students will be able to understand and articulate the meaning and impact of occupation, its historical and philosophical significance to the profession, its role as a central construct in OT theory development, its relationship to the promotion of health and wellness and prevention of disease and disability. Recognizing the importance of activity analysis in the process of formulating intervention plans will be an emphasis for student learning. Objectives B.2.1-B.2.11 in ACOTE Standards

**SLO 3: OT theories, models and frames of reference**

Students will be able to describe and apply occupational therapy theories and models these and other theoretical foundations of evaluation and intervention and will demonstrate appreciation for the process of development of theoretical principles. Occupational therapy theories and models covered in the curriculum will include but not be limited to: the Model of Human Occupation Sensory Integration biomechanical and rehabilitation models motor control and movement recovery models Objectives B.3.1-B.3.6 in ACOTE Standards

**SLO 4: OT screening, evaluation and referral**

Students will be able to select appropriate tools, both standardized and non-standardized, for effective evaluation; analyze psychometric properties of assessment tools; evaluate occupational performance across all areas of occupation; distinguish between roles of occupational therapists and occupational therapy assistants; make appropriate client referrals; interpret test results; and document services to assure accountability, reimbursement and need for services. Objectives B.4.1-B.4.11 in ACOTE Standards

**SLO 5: Intervention planning**

In accordance with the Occupational Therapy Practice Framework, students will learn to develop occupation-based intervention plans and strategies. Intervention planning will be based on information acquired via occupational profiles, evaluation of client factors — body function and structure strengths/weaknesses, performance patterns, contextual issues, activity demands and performance skills. Students will be able to choose appropriate therapeutic activities, learn the value of therapeutic use of self, modify environments, incorporate assistive

technologies, fabricate needed orthotics, and train clients in areas of mobility and transfer, feeding and eating, and activities of daily living. Students will educate clients as needed and safely use superficial thermal and mechanical modalities as preparatory measures to improving occupational performance. Objectives B.5.1-B.5.28 in ACOTE Standards

**SLO 6: Context of service delivery**

Students will demonstrate knowledge of the variety of contexts that affect and are affected by occupational therapy service delivery. They will be able to compare and contrast differences in service delivery systems, including health care, education, community and social systems. They will be able to discuss the impact of socioeconomic and political influences on occupational therapy and the need to respond to system changes to create opportunities and avoid pitfalls in education, research and practice. Objectives B.6.1-B.6.6 in ACOTE Standards

**SLO 7: OT management**

Students will be able to describe and demonstrate how practice settings affect service delivery and management of services; awareness of how federal and state laws guide service delivery; understanding of the requirements for licensing and certification, documentation, and reimbursement; and the essential nature of competency-based procedures for legal and ethical supervision of personnel and fieldwork students. Understanding of program needs, service delivery optional and effective staffing procedures will be discussed. Objectives B.7.1-B.7.10 in ACOTE Standards

**SLO 8: Understanding and consuming Research**

Students will be able to articulate the importance of knowledge development for the profession; locate, critique and interpret research evidence; apply research literature to practice; use basic statistics and qualitative research methods; demonstrate knowledge of the research process; and implement some aspect of research methodology. Discussion of grant writing, proposal development, research dissemination and translation, and research report writing will be included. Objectives B.8.1-B.8.9 in ACOTE Standards

**SLO 9: Professional ethics**

Students will be able to demonstrate knowledge and understanding of the American OT Association's code of ethics; the importance of membership in professional organizations; the value of supporting and educating other professions about OT; the importance of ongoing professional development; the threat and avoidance of liability issues; conflict resolution; contractual service provision; and ethical supervision. Objectives B.9.1-B.9.13 in ACOTE Standards

**SLO 10: Fieldwork**

Through a carefully coordinated process of fieldwork, students will be able to apply concepts learned in the classroom to practice settings under careful supervision of trained and qualified occupational therapy practitioners. Gradation of time spent, responsibilities and expectations placed on students will be provided through assignment, first to fieldwork level 1 and then to fieldwork level 2 experiences across a wide range of settings and practice areas. Upon completion of all fieldwork requirements, students will be prepared to take the National Board for Certification in Occupational Therapy (NBCOT) examination, thereby qualifying them for state licensure and practice of occupational therapy at the entry level. Objectives B.10.1-B.1.22 in ACOTE Standards

**Admission requirements**

Prerequisites for admission to the Master of Science in Occupational Therapy include a minimum of 90 credits of undergraduate course work or a completed Bachelor of Arts or Bachelor of Science degree from an accredited college or university. The department will accept credits toward the program from students who have received college credit for AP courses and/or exams and present those credits on transcripts from institutions attended prior to enrollment at VCU. A grade of D in any required prerequisite course is not acceptable for transfer. A minimum GPA of 2.7 (on a 4.0 scale) is required to be considered for admission.

The GRE is required and scores should be reported directly to Virginia Commonwealth University. For non-native English-speaking applicants, regardless of immigration status, a Test of English as a Foreign Language (TOEFL) score of at least 600 (score of 250 on computerized exam) is also required.

The program of study necessary to be considered for admission to the M.S.O.T. program must include a minimum of the following prerequisites with grades of C or better (credits are listed in semester credit hours) with a minimum overall prerequisite GPA of 3.00.



## credits

English/writing (one English composition course and one other English or writing-intensive course)	6
Anatomy and physiology (laboratory courses)	6-8
Social sciences	15
Must include:	
Life-span development course(s) sufficient to cover entire life span (3-6)	
Abnormal psychology (3)	
Other social sciences courses (psychology, sociology, social psychology, anthropology) (6-9)	
Statistics	3

Computer competence — the ability to use a personal computer for word processing, e-mail, online bibliographic searches and Internet listserv discussion — is required. It is helpful to be familiar with graphics software for preparing presentations. A course on medical terminology is strongly recommended.

These are considered minimal prerequisites, and applicants are encouraged to pursue additional study in liberal arts and science courses that develop intellectual competence, enrich interest areas and promote an awareness of the breadth of social and cultural values. To fulfill the human development prerequisite, it is important to read course descriptions carefully, as many courses say they cover the life span but primarily focus on a single area (e.g., childhood). To meet this requirement, students will need courses that prepare across the life span. To fulfill the psychology prerequisite, a course in theories of personality is highly recommended.

A total of 60 hours experience in at least two occupational therapy settings (one with adults and one with children) is required. Criteria for admission include GPA (overall and prerequisite GPA will be calculated), scores on the GRE and professional criteria, including experience, references, professional attributes and statement of professional goals.

Graduates of occupational therapy programs are required to take the national certification examination to become an Occupational Therapist Registered. The national certifying organization for occupational therapy is the National Board for Certification in Occupational Therapy (NBCOT). Other licensure or certification requirements may be established by state organizations. Some licensure or certification agencies consider individuals convicted of a felony ineligible for licensure or certification. For specific information, prospective students should contact the licensure or certification agency for occupational therapy.

### Application procedures and deadlines

The American Occupational Therapy Association has launched an occupational therapy centralized application service (OTCAS) in an effort to better accommodate prospective occupational therapy applicants. The VCU Department of Occupational Therapy will be participating in this common application service. Therefore, all students interested in applying to VCU's entry level Master of Science in Occupational Therapy program must submit their application materials directly to OTCAS.

Applicants who apply through OTCAS will submit a completed Web-based application comprising biographical data, colleges and universities attended, academic course history, occupational therapy observation hours, three letters of reference, work experience, extracurricular activities, honors, professional licenses and a personal essay. It is the applicant's responsibility to read and follow all OTCAS and program-specific instructions.

VCU requires 60 hours of observation under an occupational therapist. This observation must take place in a minimum of two settings, one of which needs to be with adults and the other with children and/or youth.

Please note that in addition to the OTCAS application that VCU requires the completion of the VCU Graduate School application, payment of the \$50 application fee and receipt of an official copy of Graduate Record Examination scores from the Education Testing Service. Virginia residents can submit a request for an in-state tuition with the Graduate School application. It is not necessary to submit transcripts, letters of recommendation or the personal statement with the VCU application, as these are submitted through OTCAS.

Apply online now: [www.otcas.org](http://www.otcas.org)

## Curriculum

The total program is planned for completion in seven semesters of full-time study and encompasses academic and fieldwork education as well as a research experience.

## credits

### Summer I

ANAT 525 Human Anatomy	5
OCCT 530 Nature of Occupational Therapy	2
	<hr/> 7

### Fall I

OCCT 520 Occupational Therapy Applications: Kinesiology	2
OCCT 522 Interdisciplinary Medical Lectures	3
OCCT 531 Interpersonal Communication and Group Dynamics	2
OCCT 532 Life Span Occupational Development	3
OCCT 533 Occupational Therapy Principles, Values and Theories	4
OCCT 620 Occupational Therapy Practice Activities I: Activity Analysis	1
	<hr/> 15

### Spring I

OCCT 521 Neuroscience Applications to Occupational Therapy	3
OCCT 534 Occupational Therapy Evaluation and Intervention Overview	3
OCCT 630 Adult Evaluation and Intervention I: Foundations	2
OCCT 635 Psychosocial Evaluation and Intervention I	2
OCCT 640 Pediatric Evaluation and Intervention I: Infant and Preschool Children	3
OCCT 660 (Section 001) Level I Fieldwork in Occupational Therapy	1
	<hr/> 14

### Fall II

OCCT 621 Occupational Therapy Practice Activities II: Assistive Technologies	1
OCCT 633 Adult Evaluation and Intervention II: Facilitating Function with Physical Disability Across the Continuum of Care	4
OCCT 641 Pediatric Evaluation and Intervention II: Ages 6-12	4
OCCT 660 (Section 002) Level I Fieldwork in Occupational Therapy	1
OCCT 709 Research Process and Statistical Analysis in Occupational Therapy	4
	<hr/> 14

### Spring II

OCCT 623 Occupational Therapy Practice Activities III: Activity and Occupational Synthesis	1
OCCT 636 Fieldwork I in Psychosocial Occupational Therapy	2
OCCT 650 Occupational Therapy in Health Care	3
OCCT 651 Administration and Supervision of Occupational Therapy Services	3
OCCT 670 Case Based Clinical Reasoning in Occupational Therapy	2
OCCT 729 Research Practicum	3

	14
<b>Summer III</b>	
OCCT 680 Level II Fieldwork in Occupational Therapy: A	9
	9
<b>Fall III</b>	
OCCT 681 Level II Fieldwork in Occupational Therapy: B	9
	9
<b>Total credits in program</b>	<b>82</b>

Upon successful completion of the program, students are eligible to take the national certification examination. Certification is required by most employers as proof of professional competence.

For additional information, visit the [Department of Occupational Therapy Web site](#).

### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Master of Science in Occupational Therapy (M.S.O.T.)

The departments of Occupational Therapy and Gerontology have developed a specialized version of the Certificate in Aging Studies program for students completing the Master of Science in Occupational Therapy. Students must meet admission requirements for the occupational therapy degree and the gerontology certificate program. The student is required to complete the following courses:

	credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 606 Aging and Human Values, or	3
GRTY 616 Geriatric Rehabilitation or	
GRTY 691 Geriatric Interdisciplinary Team Training	
OCCT 691 Special Topics	2
OCCT 709 Research Process and Statistical Analysis in Occupational Therapy	4
OCCT 729 Research Practicum in Occupational Therapy	3
	21

Contact the respective departments for additional curriculum information.

### Occupational Therapy, Post-professional Master of Science (M.S.)

#### Admission requirements summary

Occupational Therapy, Post-professional Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Jun 15	GRE
Special requirements:			
Contact department for specific admission requirements.			
Post-professional masters application link:			
Supplemental application materials are available on the Web at <a href="http://www.sahp.vcu.edu/occu/programs/postprofessional/apply.html">www.sahp.vcu.edu/occu/programs/postprofessional/apply.html</a> .			

The Department of Occupational Therapy offers a post-professional Master of Science program that is available for registered occupational therapists. It is a distance education program combining Internet-based course work with optional on-site instructional periods. A minimum of 34 semester hours, including a thesis, is required.

The post-professional master's provides bachelor's-degreed, registered occupational therapists with opportunities to develop advanced clinical problem-solving skills and abstract reasoning. Upon program completion, the student should have increased ability to:

- Provide theory and evidence-based practice
- Engage in advanced clinical program solving
- Use research skills to assist in developing new clinical knowledge and in program evaluation
- Fulfill expanded roles, and seek out and create roles in new settings

#### Student learning outcomes

- Develop increased ability to provide theory-based and evidence-based practice
- Develop increased ability to use research skills to assist in developing new clinical knowledge and in program evaluation

### Admission requirements

Applicants from the U.S must have earned a bachelor's degree from an accredited college or university and be certified by the National Board of Certification in Occupational Therapy, Inc. An official report of scores on the GRE is required. Application forms and instructions for applying to all graduate programs are available on the Graduate School website.

Applicants from countries other than the U.S must have a degree from a World Federation of Occupational Therapy-approved school, have taken and submitted GRE scores, and have successfully taken and submitted TOEFL scores.

### Curriculum

The program is a part-time distance education post professional program, combining Web-based instruction with on-campus meetings twice a year, in August and January. This program follows the traditional fall and spring semester schedule; summer courses may be available. The curriculum consists of theory and research core courses, concentration core courses, and at least six credits of thesis research. Up to six credits of electives may be taken at other institutions and transferred in, with the permission of an adviser. The curriculum includes the following 34-37 credit hours of courses:

Theory core	Credits
OCCT 671 Advanced Theory in Occupational Therapy	4
OCCT 673 Health Care Delivery and Occupational Therapy Practice Models	3
<b>Total</b>	<b>7</b>
<b>Research core</b>	
OCCT 710 Quantative Research Processes	3
OCCT 735 Evidence Bases for Occupational Therapy Practice	3
OCCT 736 Developing Fundable Projects	3
Statistics (taken outside the department)	3
<b>Total</b>	<b>12</b>
<b>Concentration course options</b>	
OCCT 656 Advanced Neuroscience Applications in Occupational Therapy	3
OCCT 685 Advanced Clinical Reasoning: Asking the Right Questions	3
OCCT 686 Advanced Clinical Reasoning Applications	3
OCCT 691 Special Topics in Occupational Therapy (3)	3
OCCT 697 Independent Study (3)	3
OCCT 739 Program Development and Evaluation	3
OCCT 793 Clinical Specialty Practicum (3)	3
GRTY 601 Biological and Physiological Aging	3
GRTY 602/PSYC 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3

GRTY 606 Aging and Human Values (ethics)	3
GRTY 616 Geriatric Rehabilitation	3
GRTY 620 Geriatric Interdisciplinary Team Training	1
GRTY 638 Long-term Care Administration	3
<b>Required concentration total</b>	<b>9</b>

**Thesis**

OCCT 798 Thesis (proposal)	3
OCCT 799 Thesis	1-6
<b>Required thesis total</b>	<b>6-9</b>

**Program total 34-37**

The program is designed to permit part- or full-time study. Courses are generally taught once yearly. For additional information, visit the [Department of Occupational Therapy website](#).

### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Post-professional Master of Science in Occupational Therapy (M.S.)

The departments of Occupational Therapy and Gerontology have developed a specialized version of the Certificate in Aging Studies program for students completing the post-professional Master of Science in Occupational Therapy. Students must meet admission requirements for the occupational therapy degree and the gerontology certificate program. The student is required to complete the following courses:

	Credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602/PSYC 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3
GRTY 606 Aging and Human Values	3
GRTY 616 Geriatric Rehabilitation	3
GRTY 620 Geriatric Interdisciplinary Team Training	1
OCCT 655 Older Adult Advanced Assistive Technology Application in Occupational Therapy	3
OCCT 710 Quantitative Research Process	3
OCCT 798 Thesis	3

Contact the respective departments for additional curriculum information.

### Occupational Therapy, Post-professional Occupational Therapy Doctorate (O.T.D.)

**Admission requirements summary**

Occupational Therapy, Post-professional Occupational Therapy Doctorate (O.T.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
O.T.D.	Fall preferred	Jun 15	GRE
<b>Special requirements:</b> Contact department for specific admission requirements.			
OTD supplemental application link: Supplemental application materials are available on the Web at <a href="http://www.sahp.vcu.edu/occu/programs/doctorate/apply.html">www.sahp.vcu.edu/occu/programs/doctorate/apply.html</a>			

The Department of Occupational Therapy offers a post-professional Occupational Therapy Doctorate (O.T.D.) program that is available for registered occupational therapists. It is an on-campus distance education program combining Web-based course work with on-site instructional periods. A minimum of 32 semester hours is required for students entering with an M.S. in Occupational Therapy; 47 semester hours are required for students entering with a B.S. in Occupational Therapy. Students entering with a bachelor's degree in occupational therapy will receive a

dual degree: M.S./O.T.D. Students who have received their occupational therapy degree within the past five years may have some courses waived; please contact the department for more information.

The post-professional OTD provides opportunities to develop advanced clinical leadership skills. Upon program completion, the student should have increased ability to:

- Articulate and appraise the complexity of occupation, disability and the rehabilitation process.
- Develop and evaluate advanced clinical problem-solving.
- Synthesize up-to-date health care theoretical foundations and evaluate their application to clinical practice and leadership experiences.
- Engage in critical analysis of practice and leadership issues.
- Critique the research processes inherent in literature related to practice and implement critical analysis of published research.
- Organize, plan and prepare a proposal addressing a clinical issue.
- Design, conduct and appraise self-knowledge of evidence-based practice.
- Examine changes in the health care arena and judge the impact of change on clinical practice.
- Apply knowledge of leadership theory.
- Develop, plan, implement and assess leadership activities leading to enhancement of individual leadership skills and knowledge.
- Analyze strengths and needs in all areas.
- Identify areas for lifelong learning and professional development.

**Student learning outcomes**

- The student will articulate knowledge of leadership theories and models, critically analyze current leadership abilities and apply leadership skill in professional contexts.
- The student will identify and use professional, data-driven evidence to support professional programs and initiatives through proposal writing for grant funding and program development.
- The student will demonstrate advanced skill in developing and implementing new programs/projects designed to advance the field of occupational therapy.

**Curriculum**

The program is a part-time distance education post-professional program for students with an occupational therapy degree. It combines Web-based instruction with on-campus meetings twice a year, in August and January. This program follows the traditional fall and spring semester schedule; summer courses are required for students entering with a bachelor's degree and are optional for students entering with a master's degree. The curriculum consists of leadership, research/scientific foundation and theory practice foundation core courses, along with electives for concentrated study.

The curriculum for an occupational therapist entering with a **baccalaureate** degree includes the following 47 credit hours of courses:

	Credits
<b>Leadership core</b>	
OCCT 736 Developing Fundable Projects	3
OCCT 739 Program Development and Evaluation	3
OCCT 740 Concepts in Disability Leadership for Occupational Therapists	3
OCCT 741 Disability Leadership Applications for Occupational Therapists	3
OCCT 742 Practicum in Leadership for Occupational Therapists	4
OCCT 743 Synthesis and Evaluation of Capstone Leadership Project	2
<b>Total</b>	<b>18</b>
<b>Research/scientific foundation core</b>	
OCCT 710 Quantitative Research Processes	4

OCCT 735 Evidence Bases for Occupational Therapy Practice	3
<b>Total</b>	<b>7</b>
<b>Theory/practice foundation core</b>	
OCCT 671 Advanced Theory in Occupational Therapy	4
OCCT 673 Health-care Delivery and Occupational Therapy Practice Models	3
OCCT 685 Advanced Clinical Reasoning: Asking the Right Questions	3
OCCT 686 Advanced Clinical Reasoning Applications	3
<b>Total</b>	<b>13</b>
<b>Electives</b>	<b>9</b>
<b>Program total</b>	<b>47</b>

The curriculum for an occupational therapist entering with a **master's** degree includes the following 32 credit hours of courses:

	<b>Credits</b>
<b>Leadership core</b>	
OCCT 736 Developing Fundable Projects	3
OCCT 739 Program Development and Evaluation	3
OCCT 740 Concepts in Disability Leadership for Occupational Therapists	3
OCCT 741 Disability Leadership Applications for Occupational Therapists	3
OCCT 742 Practicum in Leadership for Occupational Therapists	4
OCCT 743 Synthesis and Evaluation of Capstone Leadership Project	2
<b>Total</b>	<b>18</b>
<b>Research/scientific foundation core</b>	
OCCT 710 Quantitative Research Processes	4
OCCT 735 Evidence Bases for Occupational Therapy Practice	3
<b>Total</b>	<b>7</b>
<b>Theory/practice foundation core</b>	
OCCT 671 Advanced Theory in Occupational Therapy	4
OCCT 673 Health-care Delivery and Occupational Therapy Practice Models	3
<b>Total</b>	<b>7</b>
<b>Program total</b>	<b>32</b>

For additional information, visit the Department of Occupational Therapy Web site at [www.sahp.vcu.edu/occu](http://www.sahp.vcu.edu/occu).

## Department of Patient Counseling

Patient counseling is the practice of communicating empathic concern, support and sensitive spiritual counsel to the physically or emotionally troubled person in the traumas of life. There is a long history of a concerted effort toward this end at the VCU Health System. With the appointment of Dr. George D. Ossman as chaplain in 1943, the administration gave clear evidence of its awareness of the need for a specialized caring ministry to hospitalized patients and their families.

The chaplaincy program was significantly expanded in 1958 and was accredited to begin the education and clinical training of persons in patient counseling. Since then, a continuous program has been in existence and has evolved into the present program in patient counseling. Patient counseling, as it exists today, became an

integrated program in the School of Allied Health Professions in 1970. A comprehensive curriculum review was completed in 1999.

With the rapid growth of health care and the increasingly complex problems of medical ethics and viable delivery systems, it is very important to educate qualified persons to deal with the human dimensions of illness as well as the personal and family stressors related to it. Through this program, VCU has an opportunity to make an impact upon health care education by emphasizing the spiritual dimension of human needs in life crises. By so doing, this university has a significant role to play in the important task of keeping health care holistic and utilizing technical and scientific methodology in the context of a deep respect for the total life of persons.

## Accreditation

The program is accredited by the Association for Clinical Pastoral Education, Incorporated. It is offered in collaboration with the VCU Health System.

## Administration

**D. Mark Cooper**

Associate Professor and Chair

## Objectives

The Program in Patient Counseling is designed to assist an individual to work in the health field as one skilled in dealing with the whole person in the context of life's crises and in a cooperative interprofessional team approach. It is offered to persons who have an existing identity in a helping or counseling profession. This includes clergy, social workers, institutional counselors, education specialists, psychologists, community health workers and others in the health care professions.

## Facilities

West Hospital (W2S) is the base for the educational program, and limited space is available in clinical areas to work with persons and families in crisis. The Main Hospital, mezzanine level, contains the chapel, family consultation room and administrative offices.

## Code of ethics

The professional behavior of the student is expected to be in accordance with the Code of Professional Ethics, as adopted by the Association for Clinical Pastoral Education, Inc. and the Code of Ethics of the Association of Professional Chaplains.

## Programs

Students serve in the dual capacity of providing pastoral care service while learning. Extensive clinical involvement, including night and weekend responsibilities, is required for selected courses and clinical pastoral education credit. Each student receives individual supervision by a member of the faculty.

- [Intern Certificate](#)
- [Postbaccalaureate Graduate Certificate in Patient Counseling](#)
- [Master of Science in Patient Counseling](#)

Students who are unsuccessful in demonstrating completion of designated clinical pastoral education outcomes in any program will be required to develop with a faculty mentor an individualized plan of study toward their completion. Typically, this plan will be accomplished through additional course work or a directed independent study.

## Continuation requirements, advising, transfer and part-time status

A student must maintain a minimum GPA of 3.0 in all course work completed at VCU. A student who falls below that minimum will have one semester to remedy the deficiency.

A student must register for at least one credit hour each academic year for continuation in the program. Any student who fails to register must have prior approval to do so or be dropped from the program and must reapply for reinstatement.

There is a five calendar-year maximum for students to complete the Master of Science degree and a seven calendar-year maximum for the dual degree. The graduate certificate program must be completed within a four calendar-year maximum. Part-time students who wish to accumulate concurrent ACPE credit need to be sure that course work is completed in accordance with ACPE standards.

A maximum of eight credits may be transferred from another university toward the Master of Science course requirements provided these credits have not been applied to a previous degree. A maximum of one-third of the didactic hours may be transferred from another VCU program. Dual degree candidates may apply six credits from their seminary studies to the VCU degree. Transfer is given at the discretion of the chair after consultation with the faculty, subject to university approval. Credits are not transferable to either of the certificate programs.

Students who have been admitted to the graduate certificate program may be admitted to the master of science degree with advanced standing after the completion of at least 18 credits with a "B" or better. All credits of a "B" or better will transfer to the degree program.

Upon admission to all programs students will be assigned a faculty adviser.

## Patient counseling courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to patient counseling (PATC) courses.

### Patient Counseling, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Patient Counseling, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall, spring and summer	Contact the department	
Special requirements: Contact department for specific admission requirements.			

The certificate is designed to meet the outcomes of Level I Clinical Pastoral Education. This certificate is granted upon the satisfactory completion of PATC 515 or an approved equivalency of courses completed in no more than two consecutive semesters. Programs are offered in the fall, spring and summer semesters.

#### Student learning outcomes

- Demonstrate the knowledge and provision of intensive and extensive pastoral/spiritual care to persons in crisis (ACPE Standard 312.3).
- Demonstrate incorporation of theological understanding and knowledge of the behavioral sciences in care of patients, families and staff (ACPE Standard 312.4).
- Demonstrate effective participation as a member of a comprehensive health care team (ACPE Standard 312.5).
- Demonstrate the utilization of individual and group supervision for personal and professional development as well as ongoing evaluation of clinical practice (ACPE Standard 312.7).

#### Admission requirements

- Bachelor of Arts or its equivalent
- Completed VCU graduate application
- Supplemental ACPE application materials
- Personal interview with a member of the faculty or an approved substitute

#### Curriculum

	Credits
PATC 515 Basic Patient Counseling	9
PATC 500- or 600-level elective	3
<b>Total minimum requirement</b>	<b>12</b>

### Patient Counseling, Master of Science (M.S.)

#### Admission requirements summary

Patient Counseling, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Contact the department	GRE
Special requirements: Contact the department for specific admission requirements.			

The Master of Science requires 44 credit hours of study according to one of the established curricula. A 30-credit accelerated M.S. as well as a dual degree track M.S./M.Div. with the School of Theology at Virginia Union University and Baptist Theological Seminary at Richmond are available. Course substitutions require faculty approval.

Final granting of the Master of Science requires an oral review with the faculty demonstrating completion of outcomes for Level II Clinical Pastoral Education or Supervisory Clinical Pastoral Education as determined by the chosen track of study.

#### Student learning outcomes

- Demonstrate awareness of self with congruence in the care of patients, families and staff (ACPE 312.1).
- Demonstrate ability to provide care with sensitivity and respect in a diverse patient, family and staff environment (ACPE 312.2).
- Demonstrate the knowledge and provision of intensive and extensive pastoral/spiritual care to persons in crisis (ACPE Standard 312.3).
- Demonstrate incorporation of theological understanding and knowledge of the behavioral sciences in care of patients, families and staff (ACPE Standard 312.4).
- Demonstrate effective participation as a member of a comprehensive health care team (ACPE Standard 312.5).
- Demonstrate responsible care and professional boundaries (ACPE Standard 312.6).
- Demonstrate the utilization of individual and group supervision for personal and professional development as well as ongoing evaluation of clinical practice (ACPE Standard 312.7).
- Demonstrate awareness of professional standards in chaplaincy (ACPE Standard 312.8).
- Demonstrate ability to self supervise and critically reflect on one's pastoral encounters (ACPE Standard 312.9).

#### Admission requirements

- Bachelor of Arts or its equivalent.
- Completed graduate application.
- Supplemental ACPE application materials.
- Submission of the Graduate Record Examination or at least one year of graduate education with a GPA of "B" or better.
- Personal interview with faculty.
- Additional requirements for the Accelerated M.S.
  - Completion of a graduate-level degree in theology, pastoral care or a health-related field.
  - One unit of clinical pastoral education in a center accredited by the Association for Clinical Pastoral Education Inc.

International students should submit scores at an acceptable level (minimum of 550) on the TOEFL and give additional evidence of ability to communicate in English with faculty for admission to the graduate certificate and Master of Science programs.

Students seeking concurrent positions as pastoral care residents at the VCU Health System should contact the department directly. Applicants for resident positions should have completed two years of graduate theological education or a graduate



degree in a health-related field with demonstrated background in theological studies and Level I Clinical Pastoral Education in an ACPE accredited center.

## Curriculum

	Credits
<b>Option I: Dual degree track</b>	
<b>Year I</b>	
M.Div. course taken at seminary	-
M.Div. course taken at seminary	-
Pastoral care (seminary course applied to M.S.)	3
<b>Year II</b>	
PATC 515 Basic Patient Counseling	9
M.Div. course taken at seminary	-
Ethics (seminary course applied to M.S.)	3
<b>Year III</b>	
M.Div. course taken at seminary	-
PATC 611 Theory and Practice of Patient Counseling I	5
PATC 612 Theory and Practice of Patient Counseling II	5
PATC 613 Group Process I	2
PATC 614 Group Process II	2
PATC 617 Supervised Clinical Practice I	5
PATC 635 Clinical Ethics	2
PATC 639 Pastoral Care Management	2
PATC 640 Research Basics for Hospital Chaplains	1
PATC 641 Evidence-based Inquiry for Hospital Chaplains	1
<b>Year IV (summer or fall)</b>	
PATC 615 Theory of Group Leadership	2
PATC 642 Developing and Presenting Chaplaincy Research	1
Elective(s)	2
M.Div. course taken at seminary	-
M.Div. course taken at seminary	-
<b>Total</b>	<b>44</b>
<b>Option II: Chaplain certification degree track</b>	
<b>Semester one</b>	
PATC 515 Basic Patient Counseling	9
<b>Semester two</b>	
PATC 611 Theory and Practice of Patient Counseling I	5
PATC 613 Group Process I	2
PATC 635 Clinical Ethics	2
PATC 640 Research Basics for Hospital Chaplains	1
<b>Semester three</b>	
PATC 612 Theory and Practice of Patient Counseling II	5
PATC 614 Group Process II	2
PATC 639 Pastoral Care Management	2
PATC 641 Evidence-based Inquiry for Hospital Chaplains	1
<b>Semester four</b>	
PATC 615 Theory of Group Leadership	2
PATC 617 Supervised Clinical Practice I	5
PATC 642 Developing and Presenting Chaplaincy Research	1
Elective	1
Additional electives (may be taken throughout entire course of study)	6
<b>Total</b>	<b>44</b>

## Option III: Supervisory CPE degree track

<b>Semester one</b>	
PATC 615 Theory of Group Leadership	2
PATC 640 Research Basics for Hospital Chaplains	1
PATC 653 Patient Counseling Evaluation I	4
PATC 661 History of Pastoral Supervision	3
<b>Semester two</b>	
PATC 641 Evidence-based Inquiry for Hospital Chaplains	1
PATC 654 Patient Counseling Evaluation II	4
PATC 663 Theory of Pastoral Supervision I	3
Elective	2
<b>Semester three</b>	
PATC 642 Developing and Presenting Chaplaincy Research	1
PATC 664 Theory of Pastoral Supervision II	2
PATC 694 Advanced Clinical Pastoral Supervision	7
<b>Semester four</b>	
PATC 696 Intensive Supervisory Practicum	9
<b>Semester five</b>	
Additional electives	5
<b>Total</b>	<b>44</b>

## Option IV: Accelerated M.S. chaplain certification degree track

<b>Semester one</b>	
PATC 611 Theory and Practice of Patient Counseling I	5
PATC 613 Group Process I	2
PATC 635 Clinical Ethics	2
PATC 640 Research Basics for Hospital Chaplains	1
<b>Semester two</b>	
PATC 612 Theory and Practice of Patient Counseling II	5
PATC 614 Group Process II	2
PATC 639 Pastoral Care Management	2
PATC 641 Evidence-based Inquiry for Hospital Chaplains	1
<b>Semester three</b>	
PATC 615 Theory of Group Leadership	2
PATC 617 Supervised Clinical Practice I	5
PATC 642 Developing and Presenting Chaplaincy Research	1
Additional electives	2
<b>Total</b>	<b>30</b>

## Department of Physical Therapy

The Department of Physical Therapy was established in 1945 to provide basic preparation for the practice of physical therapy. Between 1945 and 1954, the program consisted of a 12-month professional course designed to train students for entry into the profession. This program was based upon at least three years of college work or the possession of a registered nurse certificate. A two-year professional program after two years of preparatory college work was initiated in 1954. This program led to the degree of Bachelor of Science in Physical Therapy. In 1968, the Department of Physical Therapy became part of the School of Allied Health Professions. The two-year professional program leading to the Bachelor of Science degree continued through the 1988-89 academic year.

In August 1989, the Department of Physical Therapy, School of Allied Health Professions, began a three-year professional program based on three years of

previous college work that leads to a Master of Science degree. On Feb. 8, 2001 the VCU Board of Visitors approved a proposal to offer a Doctor of Physical Therapy as the entry-level professional degree. The State Council of Higher Education in Virginia gave its final approval for the proposal on June 20, 2001. The first class to study the professional program began in July 2002.

In addition to the professional program, the department participates in four collaborative and interdisciplinary Ph.D. programs.

## Administration

**Thomas Mayhew**

Associate Professor and Department Chair

## Mission

The Department of Physical Therapy serves the people of the commonwealth of Virginia and the nation by providing educational programs related to physical therapy. The department provides an environment that encourages education through problem solving, free inquiry, professional behavior and scholarship. The department's primary focus is to prepare individuals for general physical therapy practice. These practitioners are educated to serve as an entry point into the health care system for consumers. Post-professional programs provide quality education leading to careers in teaching and research. The department also provides assistance and services to the community and engages in research and scholarly activities related to the practice of physical therapy.

## Philosophy

Physical therapy is an integral part of the health care system. Expanding knowledge in the basic and clinical sciences, and changes in the needs and mandates of society, continually place new demands on the physical therapy profession. The faculty of the Department of Physical Therapy is committed to providing educational programs responsive to expanding knowledge and the needs of society.

The primary principle directing the activities of the department is the faculty's commitment to optimal patient care through physical therapy education, research and practice. The faculty strongly believes that physical therapists must have a thorough understanding of the theoretical bases for treatment and skills in problem solving, evaluation and communication.

The faculty also believes that physical therapists have a responsibility to develop skills for lifelong learning (e.g., the ability to find information and to critically analyze that information).

The faculty also is committed to the development and sharing of new knowledge in the field of physical therapy through scholarship and research.

## Objectives

The objectives of the Department of Physical Therapy, in concert with the mission of the university and the School of Allied Health Professions, are to:

- Provide an entry-level postbaccalaureate educational program for full-time students with diverse backgrounds and experiences.
- Contribute to interdisciplinary post-professional doctoral programs that prepare physical therapists to contribute to the understanding and application of therapeutic procedures through basic and applied research and to teach both clinical and didactic physical therapy on all academic levels.
- Provide an atmosphere that fosters critical thinking, intellectual curiosity and integrity, freedom of expression, personal growth and professional competence, and a commitment to learning for faculty and students.
- Provide an environment that facilitates research and scholarship directed toward optimizing patient care.
- Provide services to the public and professional communities.

## Facilities

The educational facilities for the Department of Physical Therapy are located on the basement floor of A.D. Williams/West Hospital. These buildings, located on the northeast corner of 12th and Broad streets, house administrative and faculty offices, classrooms, physical therapy instructional, computer and research

laboratories, and student locker rooms. Classrooms in other buildings on the MCV Campus are used as needed.

Clinical education experiences for professional students are offered in physical therapy clinics throughout Virginia and the country.

## Graduate (postprofessional) programs in physical therapy

The Department of Physical Therapy is committed to improving physical therapy services through graduate education and research. The department participates in several cooperative and interdisciplinary doctoral programs. A physical therapy track is offered in the Ph.D. program of the Department of Physiology and Biophysics. An interdisciplinary Ph.D. in Rehabilitation and Movement Science is offered in conjunction with two other departments at VCU: Department of Health and Human Performance in the School of Education and the Department of Physical Medicine and Rehabilitation in the School of Medicine. Also, the department participates in the School of Allied Health Professions' Ph.D. in Health Related Sciences.

Education at the Ph.D. level is a highly independent adventure. The curricula offered by the Department of Physical Therapy through joint ventures with other departments allow students the opportunity to focus on highly divergent aspects of research related to physical therapy. Each of the programs also offers students opportunity to hone teaching skills in preparation for a well-rounded academic career.

Regardless of the chosen program or track, each Ph.D. student conducts a substantial original research project. Individuals interested in doctoral education are encouraged to examine the research interest areas of faculty in each of the participating departments and to consult with the program directors before submitting their application to a specific program.

## Admission requirements

Applications are encouraged from individuals who are practicing physical therapists. Applicants must have graduated from a physical therapy educational program approved by the American Physical Therapy Association. International students must have an equivalent level of education as determined by the Office of International Admissions. Individuals who are not physical therapists are not accepted into the advanced degree programs.

Additional admission requirements for graduate study in the Department of Physical Therapy are as follows:

1. A minimum GPA of 2.7 on a 4.0 scale for entry-level professional education.
2. Satisfactory score on the general test of the GRE (taken no more than five years prior to admission).
3. Three satisfactory letters of recommendation.
4. Applicant's written statement of intent for pursuing graduate studies in a particular program.
5. Such additional requirements as established for each specific program.

International students also must score a 600 or above on the Test of English as a Foreign Language (TOEFL)(250 on computer-based test).

## Financial assistance

Some teaching and research assistantships are available from the Department of Physical Therapy. These assistantships are competitive. Part-time employment as a physical therapy clinician is available in Richmond and surrounding areas. Doctoral students receiving stipends must receive approval of outside employment.

VCU provides three types of student assistance: scholarships, loans, and work study. For information on these types of financial assistance, write to the Office of Financial Aid, Virginia Commonwealth University, MCV Campus, Richmond, VA 23298-0244.

Priority consideration is given to applications received by Jan. 7.

## Physical therapy courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to physical therapy ([PHTY](#)) courses.

## Physical Therapy, Doctor of (D.P.T.)

VCU's Department of Physical Therapy offers a three-year degree program leading to a Doctor of Physical Therapy. The professional track prepares students for entry into the profession by teaching them to evaluate and manage patients with physical therapy problems effectively and in accordance with ethical principles. It also provides students with strategies to continually define and meet their own educational needs in order to keep skills and knowledge current throughout their professional careers.

Applicants must meet the following requirements for entry into the Doctor of Physical Therapy program:

- A Bachelor of Arts or Bachelor of Science degree from an accredited college or university. A grade of "D" in any required prerequisite course is not acceptable.
- A minimum grade-point average of 2.7 (in a 4.0 system).
- The Graduate Record Examination. Scores should be reported directly to VCU.
- For nonnative English-speaking applicants, regardless of immigration status, a Test of English as a Foreign Language score of at least 600 (score of 250 on computerized exam). Scores should be reported directly to VCU.
- A minimum total of 100 volunteer hours in at least two physical therapy practice settings.
- Three recommendations, with at least one from a physical therapist.

Application deadline is Nov. 2. [Visit the Department of Physical Therapy Web site for application instructions.](#)

### Student learning outcomes

- Examine, diagnose individuals with disabilities
  - Effectively examine, evaluate, diagnose and determine the prognosis of individuals with impairments, functional limitations and disabilities.
- Apply health promotion principles and practices
  - Apply health promotion principles and practices in primary, secondary and tertiary prevention.
- Manage PT problems in a safe, ethical manner
  - Manage physical therapy problems in a safe, ethical, legal and professional manner.
- Use appropriate educational principles
  - Use appropriate educational principles to design methods to teach patients/clients, caregivers, colleagues and other health care professionals.
- Manage changes in physical function
  - Effectively manage changes in the physical function and health status of patients/clients.
- Select and implement safe PT interventions
  - Select and implement safe and effective physical therapy interventions and assess the subsequent outcomes.
- Determine the need for further examination or consultation
  - Determine the need for further examination or consultation by another physical therapist or for referral to another health care professional.
- Manage human and material resources
  - Manage human and material resources and services to provide high quality and cost effective physical therapy services in diverse settings.
- Apply concepts and principles of management
  - Apply concepts and principles of management to effectively supervise support personnel to whom tasks have been delegated.
- Effectively document patient information
  - Effectively document patient information and physical therapy services to colleagues in an organized, logical and concise manner.

- Integrate principles of critical inquiry to evaluate, interpret and utilize professional literature in clinical practice
  - Participate in clinical research activities, and critically analyze new concepts in the application of physical therapy practice.
- Effectively communicate with patients
  - Effectively communicate, verbally and non-verbally, with patients and their caregivers, health care personnel and members of the community.
- Demonstrate awareness of social, economic factors
  - Demonstrate an awareness of the influence of social, economic, legislative and demographic factors of the delivery of health care.
- Demonstrate understanding of lifelong learning
  - Demonstrate an understanding of the importance of lifelong learning and a commitment to the physical therapy profession.

## Administration

School of Allied Health Professions  
Cecil B. Drain  
Dean

Physical Therapy Admissions  
Emma Wheeler  
Admissions Coordinator

1200 E. Broad St., Room B-216  
P.O. Box 980224  
Richmond, VA 23298  
(804) 828-0234

**Thomas Mayhew**  
Associate Professor and Department Chair

## Professional track

The goal of this program is to provide a quality educational program that prepares students for entry into the profession of physical therapy. The program prepares students to evaluate and manage patients with physical therapy problems effectively and in accordance with ethical principles. The program also provides students with strategies to continually define and meet their own educational needs in order to keep skills and knowledge current throughout their professional careers. Upon completion of the program, students are awarded a Doctor of Physical Therapy degree.

## Objectives

Satisfactory performance in the educational experiences provided in the Doctor of Physical Therapy program prepares the graduate to:

- within the scope of physical therapy practice, effectively examine, evaluate, diagnose and determine the prognosis of individuals with impairments, functional limitations and disabilities.
- within the domain of physical therapy practice, apply health promotion principles and practices in primary, secondary and tertiary prevention.
- manage physical therapy problems in a safe, ethical, legal and professional manner.
- use appropriate educational principles to design methods to teach patients/clients, caregivers, colleagues and other health care professionals.
- effectively manage changes in the physical function and health status of patients/clients.
- collaborate with other health care practitioners to achieve the optimum delivery of health care.
- select and implement safe and effective physical therapy interventions and assess the subsequent outcomes.
- determine the need for further examination or consultation by another physical therapist or for referral to another health care professional.
- manage human and material resources and services to provide high quality and cost effective physical therapy services in diverse settings.
- apply concepts and principles of management to effectively supervise support personnel to whom tasks have been delegated.

- effectively document patient information and physical therapy services to colleagues in an organized, logical and concise manner.
- integrate basic principles of critical inquiry to evaluate, interpret and utilize professional literature in clinical practice, participate in clinical research activities and critically analyze new concepts in the application of physical therapy practice.
- effectively communicate, verbally and non-verbally, with patients and their caregivers, health care personnel and members of the community.
- demonstrate an awareness of the influence of social, economic, legislative and demographic factors of the delivery of health care.
- demonstrate an understanding of the importance of lifelong learning and a commitment to the physical therapy profession.

## Admission requirements

Prerequisites for admission to the professional Doctor of Physical Therapy program include a Bachelor of Arts or Science degree from an accredited college or university. If your university has given you college credits for your AP courses and/or exam, and it is listed on your transcript, we will accept those credits. A grade of D in any required prerequisite course is not acceptable. A minimum GPA of 2.7 (in a 4.0 system) is required to be considered for admission. The GRE is required; the scores should be reported directly to Virginia Commonwealth University. For non-native English-speaking applicants, regardless of immigration status, a Test of English as a Foreign Language (TOEFL) score of at least 600 (score of 250 on computerized exam) is required; scores should be reported directly to Virginia Commonwealth University. The program of study necessary to be considered for admission to the professional Doctor of Physical Therapy program must include a minimum of the following subject areas:

Biological sciences – 12 semester hours including laboratory experiences

- Must include four credits of college-level biology
- Must include four credits of anatomy and four credits of human physiology, or eight credits of anatomy/physiology
- An exercise physiology course is not an acceptable substitute for a human physiology course
- Cell biology and histology are highly recommended but not required

Chemistry – eight semester hours including laboratory experiences

Mathematics – three semester hours

- Must be in precalculus or a more advanced mathematics course

Physics – eight semester hours of general physics with laboratory

- Courses that emphasize mechanics, electricity, heat and light are highly recommended

Psychology – six semester hours

- One introductory course and one course in human growth and development, or abnormal psychology is required

Statistics – three semester hours

In order to complete the total requirements, students are encouraged to elect courses from the following categories: computer science, embryology, histology, cell biology, comparative anatomy, kinesiology, exercise physiology, foreign languages and courses in physical education dealing with an analytical approach to human movement or motor learning.

Students must also present a minimum total of 100 volunteer hours in at least two physical therapy practice settings.

Students are required to have current CPR certification. One of the three required letters of recommendation should be from a physical therapist.

## Application deadlines

The VCU Department of Physical Therapy participates in the American Physical Therapy Association-sponsored physical therapy centralized application service (PTCAS) for applicants to the Doctor of Physical Therapy program. All students interested in applying to VCU's Doctor of Physical Therapy program should submit their application materials directly to PTCAS.

Applicants who apply through PTCAS will submit a completed Web-based application comprising biographical data, colleges and universities attended, academic course history, physical therapy observation hours, list of reference

providers, work experience, extracurricular activities, honors, professional licenses and a personal essay. It is the applicant's responsibility to read and follow all PTCAS and program-specific instructions.

[Apply online now.](#)

Please visit the Department of Physical Therapy website at [www.vcu.edu/pt/prospectivestudents/dpt\\_apply.html](http://www.vcu.edu/pt/prospectivestudents/dpt_apply.html) for application deadlines.

## Curriculum plan

### First professional year

#### Summer semester pre-year one

	Credits
PHTY 501 Gross Anatomy	7

#### Fall semester one

PHTY 502 Kinesiology	4
PHTY 503 Applied Exercise Physiology for Wellness and Health Promotion	3
PHTY 505 Applied Microscopic Anatomy for Physical Therapy	4
PHTY 510 Rehabilitation I	4
PHTY 531 Evidence-based Practice Concepts	2
PHTY 615 Pharmacology	1
	<b>18</b>

#### Spring semester one

PHTY 506 Functional Neuroanatomy	4
PHTY 508 Orthopedic Physical Therapy I	6
PHTY 520 Clinical Education I	3
PHTY 537 Rehabilitation II	3
PHTY 623 Cardiopulmonary Physical Therapy	3
	<b>19</b>

#### Summer semester one

PHTY 512 Professional Aspects of Physical Therapy	2
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### Second professional year

#### Fall semester two

PHTY 609 Clinical Biomechanics	3
PHTY 621 Therapeutic Agents	4
PHTY 624 Clinical Problem-solving I	2
PHTY 648 Orthopedic Physical Therapy II	6
PHTY 661 Administration and Management in Physical Therapy	2
	<b>17</b>

#### Spring semester two

PHTY 626 Lifespan I	6
PHTY 627 Lifespan II	2
PHTY 640 Neurological Physical Therapy	6
PHTY 644 Orthotics and Prosthetics	2
PHTY 646 Clinical Medicine	2
	<b>18</b>

#### Summer semester two

PHTY 650 Clinical Education II	8
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### Third professional year

#### Fall semester three (Block 1 – 8 weeks)

PHTY 651 Professional Issues	2
PHTY 654 Clinical Problem-solving II	1
PHTY 670 Clinical Integration	2
PHTY 676 Comprehensive Study of PT Practice	2
PHTY 691 Special Topics (electives)	1
	<b>8</b>

#### Fall semester three (Block 2 – 8 weeks)

PHTY 680 Clinical Education III	8
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#### Spring semester three

PHTY 674 Clinical Problem-solving III	1
PHTY 695 Clinical Education IV	16

17

**Total curriculum credits** 122

Note: The preceding curriculum plan is under continuous review by the faculty. Course content, sequencing and time commitments are subject to change.

### Physical therapy, graduate study

For information on graduate studying the area of physical therapy see the physical therapy track in the [Doctor of Philosophy in Anatomy and Neurobiology](#) and the [Doctor of Philosophy in Physiology](#) or see the [Doctor of Philosophy in Rehabilitation and Movement Science](#).

### Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 9 will be given priority consideration	GRE

The Ph.D. in Rehabilitation and Movement Science is an interdisciplinary degree program developed through a collaborative partnership of the departments of Health and Human Performance, Physical Therapy, and Physical Medicine and Rehabilitation. The mission of this collaborative degree program is to prepare applied scientists capable of approaching multifaceted health care, preventive medicine and rehabilitation initiatives from an integrative rather than competitive perspective, and to prepare graduates to assume leadership positions in higher education teaching, research and management within rehabilitation and movement science.

There are two program tracks: exercise physiology and neuromusculoskeletal dynamics. The exercise physiology track prepares individuals to teach, conduct research and direct external funding initiatives in the area of cardiopulmonary rehabilitation and physiology, particularly in areas associated with metabolic and chronic disease states. The neuromusculoskeletal dynamics track prepares individuals for teaching, research and clinical initiatives associated with the identification and rehabilitation of movement disorders.

#### Student learning outcomes

##### Teaching effectiveness

Students will demonstrate teaching effectiveness in the classroom, clinical environment or both.

##### Dissemination of research

Students will disseminate research findings at an appropriate regional, national or international conference.

##### Research independence

Students will demonstrate the ability to independently collect research data, analyze research data and synthesize conclusions from research data.

### Admission requirements

Admission decisions are made by an admissions committee comprised of faculty members from each of the major collaborating departments: Exercise Science, Physical Therapy and Physical Medicine and Rehabilitation. Applicants must have completed at least one of the following: a master's degree in a related area, 30 hours of postbaccalaureate work (e.g. course work at 500 level or greater), or a first professional degree program. Admission decisions are made only on the basis of a completed application packet.

Applicants for admission to the program must complete an admission packet that includes the VCU Application for Graduate Study as well as supplementary program materials. Admission packets are available from:

#### Graduate School

Virginia Commonwealth University  
Moseley House  
P.O. Box 843051

Richmond, VA 23284-3051  
(804) 828-6916  
[www.graduate.vcu.edu](http://www.graduate.vcu.edu)

or

#### Office of Doctoral Studies

Virginia Commonwealth University  
P.O. Box 842020  
Richmond, VA 23284-2020  
(804) 827-2657  
[www.soe.vcu.edu](http://www.soe.vcu.edu)

The entrance requirements fall into the following three categories. All criteria must be completed for consideration for admission.

#### Academic criteria

- A completed VCU Graduate School Application.
- An official and up-to-date copy of all transcripts of the applicant's undergraduate and graduate record indicating that the applicant has completed the minimum required prerequisite course work.
- Official and current scores (within the past five years) for the general test of the GRE. Older scores may be submitted and consideration will be based upon the time elapsed since last formal schooling, occupation success and research ability.
- Priority for admission will be given to the applicants who have attained at least 3.5 in all graduate work attempted and a combined verbal and quantitative score on the GRE of a minimum of 1,000. If the TOEFL is required, a minimum score of 100.

#### External criteria

- A professional resume indicating an applicant's educational and career experience as well as evidence of research potential.
- Completed reference forms from three individuals capable of evaluating the applicant's academic and research potential.

#### Written expression

- A personal statement in which the applicant discusses his or her personal career goals and the manner in which this doctoral program would enhance those goals.

Applicants being considered for admission must complete an interview with a Ph.D. admissions committee representative and/or research faculty member with whom the student would like to work.

The applicant is encouraged to check the status of his or her application packet to ensure that all components of the packet have been received. Inquiries should be made to the Office of Doctoral Studies. The Admissions Committee will not review incomplete packets.

### Transfer credit

Students in the program may transfer up to nine credit hours into the program, including courses taken at VCU prior to being admitted to the program. Note that credits earned for one degree cannot be applied to another degree.

### Curriculum

The Ph.D. in Rehabilitation and Movement Science will require a minimum of 38 credit hours of course work and 12 credit hours of dissertation research. Students will be required to complete:

- 12 credit hours of research core courses comprised of a research design class, two classes in statistical application and an elective in the area of research design or statistics.
- 18 credit hours in a concentration comprised of a focus on course work in a specific discipline formulated with the major adviser and approved by the Admissions Committee of the degree program.
- Three credit hours comprised of laboratory rotations in a minimum of two laboratories within the Rehabilitation and Movement Science program; each credit hour requires a minimum of 50 contact hours in the laboratory selected.
- Five credit hours minimum of professional development comprised of an interdisciplinary research/journal club seminar (0.5 credit hour per semester),



a teaching practicum (one credit hour) and a presentation delivered at a regional, national or international conference of a related discipline (one credit hour).

- 12 credit hours of dissertation research comprised of a focused line of research over a three-to-four-year period of doctoral work.

Required research courses for the program (nine credit hours) – both tracks:

	Credits
STAT 543 Statistical Methods I	3
STAT 544 Statistical Methods II	3
ALHP 761 Health Related Sciences Research Design (or other approved course in research design)	3
Approved research design alternatives:	
HADM 761 Health Services Research Methods I	3
SOCY 626 Applications of Advanced Research Methods	3
EDUS 710 Educational Research Design	3

Elective research courses for the program (three credit hours) – both tracks:

	Credits
BIOS 531 Clinical Epidemiology	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3
BIOS 655 Quantitative Epidemiology	3
ALHP 716 Grant Writing and Project Management in Health Related Sciences (or elective research course in consultation with adviser)	3

Required concentration courses for the Ph.D. program tracks

	Credits
<b>Exercise physiology track</b>	
HEMS 701 Advanced Exercise Physiology I	3
HEMS 702 Advanced Exercise Physiology II	3
PHIS 501 Mammalian Physiology	5
PHIS 512 Cardiovascular Exercise Physiology	3
PHIS 612 Cardiovascular Physiology	3
REMS/HEMS 610 Laboratory Techniques in Rehabilitation and Movement Science	3
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#### Neuromusculoskeletal dynamics track

(select 18 credits from the following):

HEMS 611 Biomechanics of Human Motion	3
REMS/HEMS 660 Neuromuscular Performance	3
REMS 665 Instrumentation in Motion Analysis	3
REMS/HEMS 692 Independent Study or elective course	3
PHTY 605 Foundations of Pathokinesiology	3
PHTY 606 Therapeutic Kinesiology	3
PHTY/REMS 608 Advanced Musculoskeletal Sciences	3
PHTY/REMS 612 Advanced Biomechanics	3

**Laboratory rotations** (three credit hours) – both tracks:

REMS 710 Research Techniques in Rehabilitation and Movement Science	1-3
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#### Professional development core (five credit hours minimum) – both tracks

REMS 690 Research Seminar in Rehabilitation and Movement Science	1
REMS 793 Teaching Practicum in Higher Education	1
REMS 794 Research Presentation Seminar	3-4

#### Research in rehabilitation and movement science (12 credit hours) – both tracks

REMS 798 Research in Rehabilitation and Movement Science	12
--	----

### Advisory committee

#### Adviser

Incoming students will identify a faculty member in the program with whom they would like to pursue their academic program and research endeavors. Every effort will be made to accommodate the student's first choice of a faculty adviser. If the student is unsure of a research interest and adviser selection, the Admissions Committee will assign an adviser. Within the first two semesters of attendance, a permanent adviser should be identified. The adviser, together with the student, will develop a plan of study for the student's didactic and scholarly program and will be responsible for guiding the student's academic progress such that the adviser will supervise the student's research work and dissertation preparation.

#### Advisory committee

The student, in consultation with the adviser, will identify faculty members to serve on the advisory committee. The committee shall be appointed no later than the end of the spring semester following matriculation into the program. The student's advisory committee shall be comprised of five faculty members to include the adviser, two members from the rehabilitation and movement science faculty and two faculty members from other related departments. The student's adviser, who is active in the field of research the student has selected, will chair the committee.

### Comprehensive examination

Once core courses are successfully completed, students must pass written and oral comprehensive examinations before transitioning to candidacy. These examinations will test students on their basic knowledge of rehabilitation and movement science principles (primarily in their chosen track) and research methods as obtained through core, research and elective courses of the curriculum. The student must demonstrate a firm grasp of the material and the potential to become an independent researcher.

The written exam will be given to students during their second spring semester in the program. The written exam will consist of an area paper pertinent to the student's area of interest. The student's adviser and advisory committee must approve the topic and an outline of the area paper. The student's adviser is responsible for grading the area paper. If a student receives a less than satisfactory grade on the area paper, he/she will be afforded the opportunity to make appropriate revisions. Students will only be allowed to revise the area paper once. The area paper should be a minimum of 15 double-spaced pages in 12-point font. The area paper must be in a form suitable for submission for publication to a journal whose content addresses topics consistent with the area paper. The student's adviser and advisory committee must approve the journal selection and manuscript prior to submission. A passing grade on the written exam is not contingent upon the manuscript being accepted for publication.

Following acceptance of the area paper, the student will write a research proposal. The structure of the proposal will follow federal grant submission guidelines such as those specified by the National Institutes of Health or the Centers for Disease Control. The analytical research proposal must be submitted to and approved by the student's advisory committee prior to the oral examination.

The oral exam should be conducted within three to six months of successful completion of the written exam with the goal of proceeding to candidacy by the

end of the fall semester of the student's third year. The oral exam will be based on, but not primarily limited to, the student's proposed analytical research project. The student must receive a satisfactory grade from each committee member to pass the oral exam. The student may proceed to candidacy and begin the research outline in the proposal once successful completion of the oral examination is achieved.

## Exit requirements

### Dissertation defense

Upon completion of all required course work and the research project, the student must prepare a dissertation to describe the research. A dissertation manual is available for download from the VCU Web site. Students are highly encouraged to become familiar with this manual and use it as a guide for preparation of their dissertation. All committee members must approve the written dissertation and the student must orally defend this dissertation in a publicly advertised seminar prior to graduation.

Students are expected to meet all university graduate school requirements regarding minimal GPA and limitation on credits achieved with a grade of "C" or below.

## Time to degree

The doctoral degree must be obtained within seven years of matriculation. It is expected that full-time students will satisfy all requirements within four to five years. Part-time students may take the full seven years to complete all courses and the research project.

## Department of Radiation Sciences

The Department of Radiation Sciences is an integral part of the School of Allied Health Professions and shares its values. The department serves as a national leader in the education of students in the radiation sciences and provides learning opportunities that are innovative and educationally sound. Strong linkages with clinical affiliates and their staffs are vital to the department's success. Faculty and staff work in a cooperative spirit in an environment conducive to inquisitiveness and independent learning to help a diverse student body develop to its fullest potential. The faculty is committed to the concept of lifelong learning and promotes standards of clinical practice that will serve students throughout their professional careers. Faculty members serve as resources for professionals in practice and contribute to an expanded knowledge base in the field of clinical radiation sciences.

The mission of the Department of Radiation Sciences is to enable a diverse student body to develop its fullest potential and to graduate baccalaureate-level radiologic health professionals who demonstrate outstanding technical, communication and critical-thinking skills.

### Department of Radiation Sciences' goals

- For entry-level and second modality programs, students will be clinically competent.
  - Students will attain clinical competence.
  - Graduates will demonstrate clinical competence while employed in the radiation sciences.
- Students will communicate effectively.
  - Students will demonstrate effective communication during their clinical experience.
  - Students will demonstrate effective communication through the research project.
  - Graduates will demonstrate effective communication while employed in the radiation sciences.
- Students will demonstrate critical-thinking skills.
  - Students will demonstrate critical-thinking skills during their clinical experience.
  - Students will demonstrate critical-thinking skills in developing their research project.
- Students will model professionalism.
  - Students will demonstrate professionalism during their clinical experience.

- Graduates will demonstrate professionalism while employed in the radiation sciences.

- The department will assure program effectiveness.

## Administration

**Jeffrey S. Legg**

Associate Professor and Department Chair

[www.sahp.vcu.edu/radsci](http://www.sahp.vcu.edu/radsci)

## History

Radiologic technology education began at the Medical College of Virginia in the 1930s with a one-year training program in radiography. This program has undergone a number of changes through the years to evolve into the current baccalaureate educational program.

A concentration in nuclear medicine technology was added in 1984 and in radiation therapy in 1992. Degree-completion programs have been added to provide an opportunity for certified technologists and therapists to complete requirements for the baccalaureate degree.

## Facilities

The educational facilities for the Department of Radiation Sciences are located at 701 W. Grace St., Suite 2100. These facilities include energized laboratories in radiography, nuclear medicine, radiation therapy and mammography. The radiography laboratory includes a digital imaging system. In addition, the radiation therapy laboratory has a 3-D treatment planning system.

During the various phases of the curriculum, students will be assigned to one or more of the following affiliate institutions: VCU Health System's MCV Hospitals, McGuire Veterans Affairs Medical Center, CJW Medical Center, Southside Regional Medical Center and Henrico Doctors' Hospitals.

## Clinical radiation sciences courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to clinical radiation sciences [\(CLRS\) courses](#) or the [\(CLRZ\) laboratories](#).

## Department of Rehabilitation Counseling

Founded in 1955, the Department of Rehabilitation Counseling serves as a national leader in the professional preparation of certified rehabilitation counselors who exercise skill and competence on a high ethical level and with personal integrity. Accessible, innovative, research-based educational experiences that encourage the use of a critical and exploratory attitude are emphasized. The department seeks to perpetuate active programs of research and service, and maintain high levels of teaching competence. In partnership with students, community agencies and consumer and professional organizations, the department endeavors to advance the personal, social and economic independence of individuals with disabilities.

The Department of Rehabilitation Counseling is fully accredited by the Council on Rehabilitation Education (CORE), and is the only such program in the commonwealth of Virginia. The purpose of accreditation is to promote the effective delivery of rehabilitation services to people with disabilities by fostering ongoing review and improvements of rehabilitation education programs. CORE has developed a field-based research accreditation process that has gained widespread acceptance in the professional accreditation movement. With over 2,000 alumni, the department also enjoys solid relationships with many community organizations that serve as excellent sites for clinical training.

## Administration

**Allen N. Lewis**

Department Chair

**Amy J. Armstrong**

Vice Chair

## Faculty adviser

Every student must have a faculty adviser to guide the student regarding course selection and scheduling, to supervise his/her research and to act as a channel of communication with the department, to other departments, and to the Graduate School. When the student receives notification of admission to the department, it is his/her responsibility to contact the faculty adviser to plan the program of study. Students consult with faculty advisers on a regular basis to ensure orderly progress through the entire program of study, choose clinical placement sites, select electives and plan their careers.

## Pathways

Pathways, initiated in the spring of 1996, is a unique interdisciplinary program concentration designed for undergraduate students from a wide variety of academic departments who are interested in pursuing alcohol and drug rehabilitation studies. A sequence of recommended courses is offered to students who are majoring in psychology, criminal justice, social work, pharmacy, nursing, rehabilitation counseling and other academic and professional disciplines. The sequence of course work depends upon the level of intensity sought by the student, and it may range from only a single introductory course to a complete specialization. Pathways enables students to select a curricular path that matches their substance abuse rehabilitation interest regardless of their discipline. The program is available to undergraduates and is arranged in collaboration with the students major adviser and/or the director of the rehabilitation substance abuse counselor education concentration.

## Rehabilitation counseling courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to rehabilitation counseling ([RHAB](#)) courses.

### Professional Counseling, Certificate in (Post-master's certificate)

#### Admission requirements summary

Professional Counseling, Certificate in (Post-master's certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Post-master's certificate	Fall	Jun 1	
	Spring	Oct 1	

The advanced certificate program in professional counseling is designed for persons who hold the Master of Science or Master of Arts degree in counseling from VCU or other institutions. The intent is to assist students in meeting the educational requirements for the Licensed Professional Counselor, the Licensed Substance Abuse Practitioner and the Certified Substance Abuse Counselor credentials in Virginia and other states. The certificate program also may be pursued to fulfill preservice or continuing education requirements for various national certifications, such as National Certified Counselor or Certified Rehabilitation Counselor. Applicants to the program designate a preferred specialization based upon interest and need. Specialization requirements may exceed the minimum number of required credits for the certificate program as a whole.

Specific goals include but are not limited to:

1. The encouragement of advanced graduate education in counseling.
2. The facilitation of the professional counselor's career development efforts and goals.
3. The facilitation of the acquisition or maintenance of professional state licenses or national certificates.
4. The expansion of the student's awareness and expertise in specialized counselor roles and functions.

#### Student learning outcomes

Upon completion of the program, the graduate will be able to:

- Develop and maintain confidential counseling relationships with individuals using established skills and techniques.

- Establish, in collaboration with the consumer, individual counseling goals and objectives.
- Apply advanced counseling and interviewing skills.
- Employ consultation skills with and on behalf of the consumer.

## Admission requirements

The applicant must:

1. Have completed a master's degree in counseling
2. Submit an application to the VCU Graduate School, including a statement of goals, three letters of reference and transcripts from all schools attended
3. Complete a personal interview with a faculty member from the Department of Rehabilitation Counseling

While not a requirement for admission, applicants who are seeking licensure or certification in the commonwealth of Virginia need to contact the Virginia Board of Counseling for official requirements necessary for licensure or certification.

#### To apply

Applicants for admission to the program must complete forms provided by the Graduate School indicating "Certificate in Professional Counseling" as the curriculum and designate a preferred specialization or interest area. Detailed information on the curriculum is available from:

Virginia Commonwealth University  
Department of Rehabilitation Counseling  
P.O. Box 980330  
Richmond, VA 23298-0330  
(804) 828-1132  
Fax: (804) 828-1321

Physical address:

Theater Row  
730 East Broad Street  
3rd Floor, Room 3067  
Richmond, Virginia

Completed applications and all credentials must be addressed to:

Virginia Commonwealth University  
Graduate School  
1001 Grove Ave.  
P.O. Box 843051  
Richmond, VA 23284-3051

## Graduation requirements

To qualify for the advanced certificate in professional counseling, the following requirements must be satisfied:

1. With an academic adviser, design and complete an approved course of study that leads to the completion of the educational requirements for licensure or certification as a professional counselor.
2. Complete a minimum of 15 graduate hours of course work in professional counseling with an overall GPA of 3.0 or higher.
3. Complete six of 15 hours of graduate course work in advanced counseling skills courses.
4. The 15 credits must be nonduplicative of previous graduate work completed at VCU or other institutions.
5. Transfer credits are not accepted.

## Concentration areas

Two concentration areas are available in the certificate program as follows:

- Professional counseling, which requires a minimum of six credits in advanced counseling skills course work in the RHAB 613-614 series consisting of skills development in cognitive/behavioral counseling, motivational enhancement therapy, Gestalt therapy and others.

- Substance abuse counseling, which requires the completion of RHAB 521 Foundations of Substance Abuse Rehabilitation, RHAB 522 Clinical Evaluation, Assessment, and Treatment Planning in Substance Abuse Rehabilitation and RHAB 523 Contemporary Issues in Substance Abuse Treatment and Recovery. For persons who have not completed a practicum experience, RHAB 695 Supervised Clinical Experience is required.

Advanced supervised clinical practice within the above concentrations also can be arranged for internship and practicum experience in the student's area of specialization.

## Additional information

The program and all RHAB courses are taught from a rehabilitation counseling perspective. While course work from other departments such as Psychology, Social Work and Counselor Education may be included in the course of study, emphasis is placed upon a rehabilitation philosophical approach.

It also is important that applicants understand that no guarantee can be provided by VCU that a particular licensing or certification body will accept the courses listed in fulfillment of certificate requirements. Credentialing bodies are numerous, their requirements are in flux and they are not always consistently applied to individual applicants. In advising students, the faculty advisers make good faith efforts to interpret educational requirements with students. However, the student is ultimately responsible for verifying the appropriateness of any course with the specific credentialing body involved.

## Rehabilitation Counseling, Master of Science (M.S.)

### Admission requirements summary

Rehabilitation Counseling, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jun 1 Oct 1	GRE or MAT

### Admission deadlines and requirements

Both full- and part-time students are valued and are welcome to apply. Applications are reviewed on an ongoing basis. To be considered, all pertinent materials must be received in the department by June 1 (for fall) or Oct. 1 (for spring). Admission requirements include:

- An undergraduate GPA of 2.7 on a 4.0 scale; or 2.7 in the last 60 semester hour credits (based upon transcripts provided to the Graduate School).
- Three positive letters of reference from professors or employers (on reference forms provided by the Graduate School).
- Satisfactory performance on either the GRE (804) 828-6916 or the MAT (804) 828-1193.
- A relevant and clear statement of goals for graduate study and career.
- Statement of previous work or volunteer experience.
- A personal interview with a faculty member may be required.

A complete set of application materials is available from the [Graduate School Web site](#).

### Student learning outcomes

Upon completion of the program, the graduate will be able to:

- Satisfactorily practice in a legal and ethical manner.
- Satisfactorily practice with individuals and groups.
- Satisfactorily practice rehabilitation case management.
- Satisfactorily show knowledge of career development.
- Satisfactorily identify/use assessment information.
- Satisfactorily practice job development/placement.
- Satisfactorily use information from rehabilitation research.

### Transfer credit

A maximum of 12 hours of graduate credit may be transferred from another VCU graduate program or outside institution if not applied previously to another degree. Transfer credits must carry a grade of B or higher from an accredited institution.

Acceptance of transfer credit is made at the level of the department chair and dean of the School of Allied Health Professions. Transfer credits earned as a nondegree-seeking graduate student are limited to six semester hours of credit. Credits earned as deficiency hours or to demonstrate the ability to compete at the graduate level, though transferable, may not be applied to the 48-credit program of study.

Graduates from accredited rehabilitation counseling programs are typically trained in counseling theory and techniques; individual, group and environmental assessment; psychosocial and medical aspects of disability; human development; cultural diversity; principles of psychiatric rehabilitation, case management and rehabilitation planning; issues and ethics in rehabilitation service delivery; technological adaptation; vocational evaluation and work adjustment; career counseling; implementation of the Americans with Disabilities Act; job development; and placement.

## Degree requirements

The minimum degree requirement is 48 graduate credits including 36 credits of didactic course work, 100 hours of fieldwork, 600 hours of internship, three credits of electives and a comprehensive examination.

The on-campus Master of Science in Rehabilitation Counseling degree has been available since 1955. The program consists of 48 graduate credits. Currently, 90 full- and part-time graduate students are enrolled on campus. In addition, the same degree has been made available on a distance-learning basis since July 1999. Eleven required courses and the one elective are available online according to a predetermined schedule. Two clinical counseling courses also are available on-site in a compressed schedule (typically one-to-two weeks) at various locations. Alternately, up to 12 hours may be taken at an accredited graduate counseling program and accepted as transfer credit with prior approval. Approved internships with appropriate faculty and agency supervision are negotiated by the department, student and the local community organization.

Example of a full-time program of study

	credits
<b>Semester I</b>	
RHAB 525 Introduction to Rehabilitation	3
RHAB 611 Counseling Theories in Rehabilitation	3
RHAB 625 Research in Rehabilitation	3
RHAB 640 Medical and Psychological Aspects of Disabilities in Rehabilitation	3
	<hr/> 12
<b>Semester II</b>	
RHAB 521 Foundations of Substance Abuse Rehabilitation	3
RHAB 612 Group Counseling Theories and Techniques in Rehabilitation	3
RHAB 623 Career Counseling and Job Placement in Rehabilitation	3
RHAB 642 Psychiatric Information for Counselors in Rehabilitation	3
	<hr/> 12
<b>Semester III</b>	
RHAB 624 Appraisal and Evaluation in Rehabilitation	3
RHAB 633 Case Management in Rehabilitation	3
RHAB 654 Multicultural Counseling in Rehabilitation	3
RHAB 691 Counseling Techniques in Rehabilitation	3
	<hr/> 12
<b>Semester IV</b>	
RHAB 615 Human Growth and Development	3
RHAB 695 or RHAB 696 Supervised Clinical Practice (includes 600 hours of internship and CRC/comprehensive examination)	6

Elective

3

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**Comprehensive examination**

All students are required to complete the Certified Rehabilitation Counselor (CRC) Examination in conjunction with RHAB 695 or 696.

**Specializations**

In collaboration with the faculty adviser, students may wish to design a program of study around a specific area of interest. Specializations in substance abuse, mental health, physical/sensory disabilities and gerontology are the most common in the department. Careful planning will typically allow students to meet the educational requirements for several additional credentials beyond the Certified Rehabilitation Counselor (CRC); e.g., Licensed Professional Counselor (LPC), National Certified Counselor, Certified Mental Health Counselor, Certified Case Manager, Certified Vocational Evaluator, Certified Disability Management Specialist, Rehabilitation Provider (Virginia), or Master Addictions Counselor. Specialization is achieved through:

- Customization of assignments in required courses such as RHAB 640, RHAB 633, RHAB 691 or RHAB 654. These courses often involve assignments that require the student to specify a population of interest that the student is free to select.
- Required courses specific to your population of interest (e.g., RHAB 521).
- Careful selection of elective course work (e.g., RHAB 522, RHAB 523, RHAB 533).
- Careful selection of a 600-hour internship site and supervisor (RHAB 695-696).
- Additional elective course work beyond the required 48 credits.

**Foundations of clinical training**

According to CORE Standards and the requirements of the department, students must have supervised rehabilitation counseling fieldwork and internship experiences that include:

- A minimum of 100 clock hours of fieldwork experience (as part of RHAB 691).
- A minimum of 600 clock hours of internship experience in rehabilitation settings (as part of RHAB 695-696).
- Written expectations and procedures for these experiences that are distributed to students and agency supervisors.
- The following activities: orientation to program components, policies and procedures; introduction to staff and their roles and functions; identification of the expectations for students; observation of all aspects of the delivery of rehabilitation counseling services; work assignments performing the tasks required of an employed rehabilitation counselor in a rehabilitation setting from intake to discharge and/or placement; reporting, including all required academic reports as well as logs, weekly progress reviews and summaries of activities.
- Evaluation of student performance by the agency supervisor and the faculty supervisor, and including self-evaluation by the student.

Internship experiences shall be carried out under the regularly scheduled supervision of a CRC. The quality of supervision shall be maintained by involvement of VCU faculty in terms of in-service training, consultation, information and the provision of professional development resources to agency supervisors.

**Colloquia and grand rounds**

Periodically, special colloquia, grand rounds, workshops and institutes are offered for department students and agency personnel. Students will receive reasonable notice of these events, and some may be required for specific classes. Students should make every effort to attend because these experiences significantly enrich the curriculum.

**Time limit for completion of degree**

All degree requirements must be met within seven years from the date of initial enrollment.

**Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Master of Science in Rehabilitation Counseling (M.S.)**

The Department of Rehabilitation Counseling, in cooperation with the Department of Gerontology, provides its degree-seeking students with the opportunity to earn the Certificate in Aging Studies while concurrently completing the requirements for the Master of Science in Rehabilitation Counseling. Students must meet admission requirements for both the rehabilitation degree and the gerontology certificate program, and admission into one is independent of the other. Additional information, including the specific program of study for the counseling program, may be obtained in the Department of Rehabilitation Counseling. Information on the curriculum presented by the Department of Gerontology can be obtained by contacting the chair of the Department of Gerontology.

**Admission requirements**

See the individual program pages for admission requirements specific to the separate degrees.

**Curriculum**

In addition to the requirements for the Master of Science in Rehabilitation Counseling, the certificate program requires the completion of 15 credits in gerontology and six credits in rehabilitation counseling.

	credits
GRTY 601 Biological/Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 615 Aging and Mental Disorders or GRTY 641 Psychological Assessment and Treatment	3
GRTY 692 Independent Study in Gerontology	3
RHAB 625 Research in Rehabilitation	3
RHAB 696 Supervised Clinical Practice in Rehabilitation Counseling	3

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**Virginia Center on Aging**

The Virginia Center on Aging, established at VCU by the Virginia General Assembly in 1978, is a statewide resource for aging-related research, education, service, training and technical assistance. It serves as a focal point for the collection, assessment and maintenance of data on elders in the commonwealth; designs and tests innovative demonstration projects in education and service delivery; and assists public and private organizations in meeting the needs of older citizens.

The Virginia Center on Aging and the Department of Gerontology maintain the Information Resources Center, a broad collection of print and audiovisual materials on aging that is available on loan. Short reports and training manuals may be obtained at cost. The Virginia Center on Aging also administers the Alzheimer's and Related Diseases Research Award Fund that provides seed grants of \$25,000 each to researchers in Virginia in order to investigate biomedical, psychosocial, clinical, public policy and other aspects of dementing illness.

The Virginia Center on Aging regularly partners with other units of VCU in developing, conducting and evaluating research and training projects related to aging, disabilities, lifelong learning and health problems. The center is located in the Theater Row building at 730 E. Broad St.





**VCU**

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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of the Arts**

The School of the Arts offers 25 degree programs and comprises more than 3,000 students. With the inclusion of our campus in Qatar come an additional four programs. It all began as one night class taught by Theresa Pollak in the fall of 1928.

The school strives to be a stimulating community of students and teachers who cross the boundaries of conventional art and design disciplines, apply aesthetic and intellectual vision to the expression of complex ideas, value artistic tradition and experimentation in the search for creative solutions, connect international experience with professional education, integrate technical skills with theoretical understanding and care about the impact of their work on people.

## Administration

325 North Harrison Street  
P.O. Box 842519  
Richmond, Virginia 23284-2519  
(804) 828-2787  
Fax: (804) 828-6469  
[www.vcu.edu/arts](http://www.vcu.edu/arts)

**Joseph Seipel**  
Dean

**Allyson Vanstone**  
Dean for VCU-Qatar

**John Guthmiller**  
Associate Dean

**Christina Lindholm**  
Associate Dean for Undergraduate Studies

**John Risley**  
Associate Dean for Academic Affairs

**Susan King Roth**  
Senior Associate Dean

**Nancy M. Scott**  
Associate Dean for Academic Administration

## Accreditation

VCU School of the Arts is accredited by the National Association of Schools of Art and Design, the National Association of Schools of Dance, the National Association of Schools of Music, and the National Association of Schools of Theatre.

### Visual arts

Visual arts degree programs: art education, art history, communication arts, craft and material studies, fashion (design and fashion merchandising), film (cinema), graphic design, interior design, kinetic imaging, painting and printmaking, and sculpture

National Association of Schools of Art and Design

Art education (bachelor's and master's degrees)  
National Association of Schools of Art and Design, National Council for Accreditation for Teacher Education, Virginia Department of Education

Interior design (bachelor's degree)  
National Association of Schools of Art and Design, Council for Interior Design Accreditation

### Performing arts

Dance and choreography (bachelor's degree)  
National Association of Schools of Dance

Music (bachelor's and master's degrees)  
National Association of Schools of Music  
• Music education concentrations (bachelor's and master's degrees)  
National Council for Accreditation National Association of Schools of Music, for Teacher Education, Virginia Department of Education

Theatre (bachelor's and master's degrees)

## Programs

The School of the Arts offers degrees in the following areas of study:

### Art Education

- Bachelor of Fine Arts
- Master of Art Education

### Art History

- Bachelor of Arts
- Master of Arts
- Doctor of Philosophy

### Cinema

- Bachelor of Arts

### Communication Arts

- Bachelor of Fine Arts

### Craft and Material Studies

- Bachelor of Fine Arts
- See Fine Arts concentrations

### Dance and Choreography

- Bachelor of Fine Arts

### Design

- Master of Fine Arts (with concentrations in interior environments and visual communications)

### Fashion

- Bachelor of Arts
- Bachelor of Fine Arts

### Fine Arts

- Master of Fine Arts (with concentrations in ceramics, fibers, furniture design, glassworking and jewelry/metalworking; kinetic imaging; painting or printmaking; photography and film; sculpture)

### Graphic Design

- Bachelor of Fine Arts

### Interior Design

- Bachelor of Fine Arts

### Kinetic Imaging

- Bachelor of Fine Arts
- See Fine Arts

### Music

- Bachelor of Arts
- Bachelor of Music
- Master of Music

### Painting and Printmaking

- Bachelor of Fine Arts
- See Fine Arts

### Photography and Film

- Bachelor of Fine Arts
- See Fine Arts

### Sculpture

- Bachelor of Fine Arts
- See Fine Arts

### Theatre

- Bachelor of Arts
- Bachelor of Fine Arts
- Master of Fine Arts

## School of the Arts Visual Resource Center

Virginia Commonwealth University's Cabell Library houses an extensive collection of books, publications and magazines on the visual and performing arts. VCU subscribes to ARTstor, the largest online image bank for the arts.

VCU is a short distance from Washington, D.C., Baltimore, Philadelphia and New York and the museums, libraries and research facilities in those urban areas.

## Graduate information

### Graduate admission

#### Admission procedures

Application forms and instructions for applying to all graduate programs in the School of the Arts are available on the School of the Arts Web site at [www.vcu.edu/arts/](http://www.vcu.edu/arts/).

General information about admission to graduate study and application procedures can be found in the [Graduate School](#) section of this bulletin or on the [Graduate School Web site](#).

#### Admission requirements

For Ph.D. degree, see Ph.D. in Art History section.

For all other degrees (M.A., M.A.E., M.F.A. and M.M.):

- Applicants should hold the baccalaureate degree from an accredited institution.
- It is expected that applicants will have a 3.0 ("B") average on the last 60 semester hours of undergraduate work.

The prospective student should consult the appropriate section of this bulletin for additional admission requirements for a particular degree program. Such requirements include:

- The Graduate Record Examination (GRE) for applicants to art history.
- An audition and examination for music applicants, as described in the program description for the M.M. degree.
- An audition or presentation of portfolio, as well as a personal interview, for applicants for the M.F.A. in Theatre.
- A portfolio review for all applicants to the visual arts M.F.A. degrees (a personal interview is encouraged).

#### Graduate student status

The School of the Arts has two categories of graduate students — full time or part time. Full- or part-time graduate students are accepted either provisionally or as students with full standing into the graduate degree programs of the various departmental areas. These students may matriculate full time or part time except for the residence limitation discussed elsewhere in this bulletin.

Most graduate programs in the school require full-time status, including the concentrations in the Master of Fine Arts in Fine Arts degree (photography and film, painting and printmaking, sculpture, kinetic imaging and ceramics, fibers, furniture design, glassworking and jewelry/metalworking) and the visual communication track of the M.F.A. in Design. Check with the individual departments to confirm whether full-time status is required or part-time status is permitted.

Holders of the baccalaureate degree from recognized institutions may enroll in graduate courses as nondegree-seeking special graduate students, but such courses are not applicable toward a graduate degree from this institution unless the student is accepted into a graduate degree program prior to the conclusion of the semester in which the student registered as a nondegree-seeking graduate student.

A nondegree-seeking student who is later admitted as a degree-seeking student will not be allowed to apply toward a degree more than six credits earned as a nondegree-seeking student.

The second type of nondegree-seeking graduate student is the student who holds a baccalaureate degree, who wishes to take graduate courses for personal enrichment, and who does not intend to work toward a graduate degree. There is no limit to the number of credits that students in this category may take, as long as the academic performance is credible.

**All nondegree-seeking ("special") graduate students must have written permission from the chair of the appropriate department in order to enroll in classes.**

### Registration for graduate students

Graduate art students are urged to plan their schedules and register during advanced registration. Registration materials for students accepted into advanced degree programs are available in the department during the advance registration and registration periods. The advantage of advanced registration is that of securing places in classes before they are closed and of obtaining proper counsel from advisers. All graduate students must see their assigned advisers for schedule planning and signature approval. New nondegree-seeking graduate students, or those contemplating registration as such, must secure written permission to register from the departmental chair.

### Continuous enrollment policy for graduate students

Graduate students in the School of the Arts must observe the University Continuous Enrollment Policy as explained in the Graduate Studies at VCU chapter of this bulletin.

Candidates for all advanced degree programs, after completing all formal course work, must register for at least one semester hour of credit each semester, except summer, until the culminating graduate project (dissertation, thesis, creative project, exhibition, recital, etc.) is completed and the student is ready to graduate. Also, if candidates intend to graduate in August, they must be enrolled for at least one semester hour in the summer session.

### Transfer credit and graduate study

A maximum of nine graduate credits may be transferred from other accredited institutions and applied to any of the graduate degree programs in the School of the Arts. However, transfer credit is not typically granted to incoming students and is approved at the discretion of the department chair.

### Graduate advising

All students accepted into advanced degree programs must make an appointment with the chair of the department or the graduate adviser prior to registration for their first semester of course work. Normally, the student's initial adviser will be the chair of the department; but students may be assigned an adviser more directly related to their areas of concentration.

Students also are encouraged to consult faculty members outside their major area and arrange with the appropriate departmental chair to use facilities and equipment available in other departments.

### Finances for graduate students

#### Special charges

All degree-seeking graduate students are charged an art comprehensive fee. The art comprehensive fee is not charged to students who are registered only in course work to complete a dissertation/thesis/creative project or who are enrolled in order to satisfy the one-credit requirement for continuous enrollment. Nondegree-seeking graduate students enrolled in any of the courses that require an additional outlay for materials will be billed for those individual fees by the Student Accounting Department.

In addition to the comprehensive fee for all majors in the School of the Arts, all students registering for private music lessons pay an applied music fee.

### Financial support

The School of the Arts awards a limited number of graduate assistantships and scholarships to full-time students. Please see the [specific program requirements](#) for more information and application deadlines.

### Advanced degree candidacy

Students seeking an advanced degree in all programs must apply for advanced degree candidacy. Those seeking the M.A.E. and the M.M. must submit the application during or after the completion of the first nine semester credits of graduate work and prior to the completion of 18 semester credits. Students pursuing the M.F.A. Degree must submit the application during or after the completion of the first 15 semester credits of graduate work and prior to the

completion of 30 semester credits. Applications for candidacy are available in the departmental offices and the Office of Graduate Studies, School of the Arts.

Admission to a degree program does not constitute candidacy, and admission to degree candidacy is not an automatic process. Departments carefully review applicants for candidacy on such basis as examination or review of creative work or performance. Upon certification by the department that the applicant has met all departmental expectations, including the minimum 3.0 GPA and is adequately prepared to continue pursuing the degree program, the School of the Arts will admit the applicant to degree candidacy.

Students who are found to be inadequately prepared to continue their graduate programs, but who demonstrate the potential to ultimately fulfill degree requirements will be advised as to what additional work will be needed in order to meet departmental expectations. Candidacy, in such instances, will be postponed until departmental expectations are satisfied; postponement of candidacy may result in termination of financial assistance. Students whose academic or creative work demonstrate no likelihood of successful completion of a graduate program will be denied candidacy by the School of the Arts.

### Advanced degree requirements

- Students must achieve candidacy (with the exception of art history students).
- Students must complete all formal course work.
- Students must maintain at least a 3.0 cumulative GPA. No grade below “B” will count toward graduation for students in the art history and the visual communications degree programs. For all students in the theatre program, any grade below “B” in any course will result in termination from the degree program. Students in all programs in the Department of Music must not have more than six hours or 20 percent of semester hours attempted — whichever is greater — with a grade of “C.” For all other degree programs in the School of the Arts, no grade below “B” is acceptable for any course within the student’s major department, and a grade below “B” in a course in the student’s major department will result in termination from the degree program.
- All students must complete the culminating project (dissertation, thesis, final examination, creative project, recital, etc.) as outlined in departmental guidelines. The thesis, or other written documentation related to the culminating project, must be done in a form that can be retained by the university and in accordance with departmental guidelines. Students preparing a thesis must use the guidelines set forth in the Preparation of Thesis, available in departmental offices or the Office of Graduate Studies, School of the Arts.

### Residency requirements for graduate study

Candidates for the master of fine arts degree in the fine arts and theatre must complete a minimum of one-third of their degree program semester-hour credits within one calendar year.

Candidates for all master’s degrees in the School of the Arts have five years plus two possible extensions of one year each to complete all degree requirements. The above limitations apply to both full-time and part-time students. A petition for an extension is initiated with the academic or thesis adviser.

#### Ceramics (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the ceramics track, see the [Master of Fine Arts in Fine Arts](#).

#### Design, Master of Fine Arts (M.F.A.)

##### Admission requirements summary

##### Design, Master of Fine Arts (M.F.A.)

Indicate specialization:

The purpose of this advanced degree program in design is to prepare the individual designer to assume a leadership role in a complex and expanding profession. The course work, applied experience and research that constitute the program will enable the designer to better solve visual and spatial problems and to function more effectively as an administrator, planner and educator.

The program offers the graduate student the opportunity to use appropriate courses and resources from schools within the university, to participate in internships and research with various agencies and organizations concerned with programs of

design, and to view design as an interdisciplinary profession with an essential contribution to make toward the solution of the problems of today.

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

##### Student learning outcomes for design studies track

- Students will be able to present fluent verbal and written explanations of research and studio activities.
- Students will adapt to new opportunities and be ready to deal with new and currently unforeseen forms of design practice as well as respond to changes in direction within the discipline.
- Students will explore and integrate ideas from historical, social and cultural movements, policies, theories and the dynamics of historic, social and cultural change.
- Students will be able to use the technologies related to their respective fields and be able to innovate in how they are applied to practical projects and outcomes.
- Students will demonstrate the ability to identify and incorporate knowledge from different disciplines in order to synthesize design solutions.
- Students will demonstrate the ability to effectively communicate in speech and writing about their research and studio activities.

##### Student learning outcomes for interior environments tracks

- Students will demonstrate professional values.
- Student work will demonstrate advanced design theory.
- Student work will demonstrate advanced knowledge of interior design.
- Student work will demonstrate effective communication.
- Students will demonstrate a foundation in business and professional practices.

##### Student learning outcomes for visual communications track

- Students will be able to present fluent verbal and written explanations of research and studio activities.
- Students will develop a personal vocabulary, approach and vision in creative work.
- Students will demonstrate knowledge of historical, social and cultural perspectives in relation to visual communications and clarify how they influence work.
- Students will develop the ability to create expressive forms and use them to communicate appropriately.

### Characteristics of the program

The Master of Fine Arts in Design is an advanced interdisciplinary program in the study of design that utilizes knowledge and human potential in alternative ways to define problems and create change.

Graduate students not only have the opportunity to work within a design field, such as visual communications and interior environments, but also have the opportunity to develop competencies across fields and to engage in research and inquiry of a social or environmental nature to create new visual forms and communicative content in a rapidly changing society.

### Internship and field experiences

Within a professional school of the arts in an urban university there are excellent opportunities for appropriate graduate field experiences. They include:

- Formal arrangements with state agencies, industries, foundations and community organizations that would enable the graduate designer to function as a member of a project team or task force
- Service to various organizations, offered as the need arises, possibly with the student working on a specific problem or project
- Research internships developed with the university on school-supported or outside-funded projects, especially those that concern social problems, health care and institutional environments

## Program requirements

### Thesis

The thesis or creative project is a requirement for the M.F.A., design (visual communications) degree and a research-design project and exhibition are required for the M.F.A., design (interior environments) degree. The culminating work is done in a form which can be retained by the university.

### Examples of thesis

**Interior environments:** An investigation in a scholarly area or specific research and documentation of a technical or creative project

**Visual communications:** An exhibition of a visual communications problem appropriately documented or a specific research problem that explores the communicative, formal, and/or technological aspects of visual problem solving

## School of the Arts and university courses

The following courses common to all graduate programs in the School of the Arts are available to M.F.A. in Design students who desire to engage in research supervised by qualified professors within the school and other academic divisions within the university.

ARTS 592, 692 Individual Projects/Fieldwork  
ARTS 704, 705 Research in the Arts

A variety of graduate courses offered within the School of the Arts can be utilized as electives by the student in this degree program. Some examples are:

ARTH 539 Advanced Studies in 20th Century Art and Architecture  
ARTH 574 Advanced Studies in Film  
PAPR 605 Graduate Painting  
PAPR 615 Graduate Printmaking  
PAPR 621 Graduate Drawing  
SCPT 500, 600 Graduate Sculpture  
THEA 603, 604 Problems in the History of Dramatic Literature

VCU offers a wealth of graduate courses that can, as electives, support the educational process and personal development of graduate students.

## Design studies track – VCUQatar Campus

### Admission requirements summary

Design studies track – VCUQatar Campus			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Apr 15	TOEFL or IELTS for international students

The design studies track, offered on the VCUQatar Campus in Doha, acknowledges that design is a professional discipline that is broadly based and highly collaborative, incorporating the transfer of knowledge across traditional domains to create products and processes of manufacture, environments, forms of communication and the organization of information. The program provides an educational environment where self-directed students with diverse knowledge sets in design and related disciplines collaborate and challenge the definition and development of design problems, processes and solutions. Students expand and deepen their abilities and increase their motivation to contribute directly to innovation, education and leadership in design-thinking and design-making. Graduates approach design on a strategic level to provide a high degree of constructive and sustainable value to the economic, social and cultural contexts of the global community. This track in the M.F.A. is pending VCU approval.

### Admissions deadlines

The priority deadline for fall admission is April 15. The program will continue to review applications on a space-available basis until June 30.

### Undergraduate preparation

Admission is typically granted to students holding an appropriate bachelors-level degree in design or a related discipline from an internationally accredited university. The required undergraduate grade point average for students entering the track is 3.0.

### Language requirements

English language proficiency is required. All applicants must provide evidence of proficiency in the English language prior to admission. The program minimum

TOEFL score requirement is 570 (paper-based), 230 (computer-based) or 88 (internet-based). The minimum IELTS score requirement is 6.5.

### Portfolio

The admissions decision is based upon the ability of the student to present a portfolio demonstrating knowledge of design issues and a clear statement of intent. A minimum of 10 recent design projects that exemplify awareness, understanding and competency in design are required. Other pertinent data should be included as necessary.

Portfolios must be presented in electronic form (PDF files preferred on CD-ROM). Under special circumstances, these requirements may be waived.

Applicants may be required to complete a provisional course of study prior to full acceptance into the program.

### Interview

The school strongly recommends that applicants arrange an interview with the director of the graduate program to meet with graduate faculty and tour the facilities. Applicants may contact the school for an interview.

### Probationary course work

Probationary course work may be required prior to gaining full admission to the program. The amount and type of undergraduate course work will be determined at the time of application, and no graduate credit will be awarded for this probationary course work. The decision to grant full admission will be based upon successful completion of the required course work.

### Typical program pattern

First semester	Credits
DESI 511 Studio in Digital Design and Fabrication Technology	3
DESI 520 Design Research Methodologies	3
DESI 601 Interdisciplinary Design Seminar	3
DESI 611 Design Studio One	6
<b>Second semester</b>	
DESI 510 Materials and Methods Studio	3
DESI 512 Studio in Visual Communications	3
DESI 612 Design Studio Two	6
Approved studio elective*	3

### Third semester

DESI 605 Design Strategies and Ethics for Business	3
DESI 613 Design Studio Three	6
DESI 620 Design Thesis Research and Formulation	3
Approved studio elective*	3

### Fourth semester

DESI 621 Design Research Studio: Leadership and Entrepreneurship 3	3
DESI 630 Teaching Practicum in Design or	
DESI 631 Design Internship	3
DESI 690 Thesis Studio	9

**Total credits** **60**

\* The 6 credits of approved electives can be selected from a variety of 500- to 600-level courses offered at VCUQatar, VCU in Richmond, another Education City university or another internationally accredited university anywhere in the world.

## Interior environments – postprofessional track



**Admission requirements summary**

Interior environments – postprofessional track			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Feb 1	None
<b>Special requirements:</b> Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The postprofessional track is a concentration in interior environments, one of about 10 available nationally, that allows students who already have an undergraduate degree in interior design or architecture the opportunity to develop an individualized direction in scholarship. Admission is highly selective and open only to students who have demonstrated a high caliber of work at the undergraduate and/or master's level.

**Specific admission requirements**

Students may enter the postprofessional track in the fall semester only. Admission to the graduate degree program follows successful completion on an undergraduate degree program in interior design or in a related design degree program (such as architecture). All students are required to have a cumulative 3.5 GPA before entering the program. A proposal that outlines the topic and course of study and a three to five page (minimum) sample of academic writing must be submitted with the application. Prospective students should identify both their area of specialization and the faculty member(s) they wish to work with in their application. Interview is highly recommended.

Students are required to have computer graphics and word processing proficiency. A PC laptop computer is required. Information about the current computer package is available on the department Web site.

**Portfolio**

A minimum of 10 recent design projects that exemplify awareness, understanding and competency in creative design, graphic skills and technical ability are required. Other pertinent data should be included as necessary.

**Degree requirements**

A minimum of 60 credits is required within prescribed courses. A research-design project is required to complete the program of study. This project is undertaken and developed in the context of IDES 699 and must consist of the testing of an original idea that is supported by research. This information will be synthesized through the design development process and culminate in an individual creative project of complex scale and scope. Documentation must follow established guidelines and be presented in a form that can be retained by the department and the university. On completion of the thesis, students participate in an oral examination and a graduate exhibition.

**Typical program pattern**

Interior environments – postprofessional track (Track A)

	credits
Semester 1	
IDES 601 Graduate Interior Environments Studio	6
IDES 690 Graduate Seminar	3
Design/arts elective*	6
Total	15
Semester 2**	
IDES 601 Graduate Interior Environments Studio	6
IDES 690 Graduate Seminar	3
Design/arts elective	6
Total	15

Summer 1 or 2

IDES 693 Interior Design Internship (optional) 3-6  
(can be substituted for elective credit)

**Semester 3**

IDES 601 Graduate Interior Environments Studio	6
IDES 690 Graduate Seminar	3
IDES 635 Teaching Practicum or IDES 623 Advanced Design Studies or open elective	6
Total	15

**Semester 4**

IDES 623 Advanced Design Studies	6
IDES 690 Graduate Seminar	3
IDES 699 Creative Project/Thesis	6
Total	15

Program total 60-66

\* At least 12 credits of electives must be studio classes.

\*\* Candidacy review occurs during the second semester.

**Interior environments – professional entry-level track****Admission requirements summary**

Interior environments – professional entry-level track			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Feb 1	TOEFL score for international students
<b>Special requirements:</b> Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process and TOEFL score requirements.			

The professional entry-level track is a 60-72 credit program for second-degree seekers who have a proven record of academic excellence in a field other than architecture or interior design and are interested in pursuing a career in interior design. The structure of the track echoes the B.F.A. in Interior Design program in content, but advances the student at a very accelerated rate during the first year and summer, bringing students parallel with the curriculum of the postprofessional track by the second year.

The curriculum is highly sequenced and students are admitted to the program for the fall semester only. All incoming students are required to take part in an intensive workshop in the summer that introduces and develops drawing, presentation skills and an understanding of two- and three-dimensional design methods. Students must successfully pass the workshop with a grade of B or better to begin the professional entry level track. Applicants who have an art or design background are strongly encouraged to submit a portfolio for review with their application. PowerPoint is the preferred format for the portfolio. Applicants are also required to submit three letters of recommendation and a three-to-five page writing sample.

**Curriculum**

	credits
Summer 1	
IDES 500 Art and Design Methods Studio	12
Students with no art or design background must successfully complete this class with a grade of B or better as a prerequisite for enrolling in the program.	
Semester 1	
IDES 501 Introductory Graduate Studio I	6

IDES 511 Introductory Graduate Graphics I	3
IDES 521 Advanced Material Studies for Interior Environments	2
IDES 531 Principles and Practices of Interior Environments	2
IDES 651 History and Theory of Interior Environments I	2
Total	15
Semester 2*	
IDES 502 Introductory Graduate Studio II	6
IDES 512 Introductory Graduate Graphics II	3
IDES 522 Environmental Factors for Interior Environments	2
IDES 611 Advanced Graphics for Interior Environments I	2
IDES 652 History and Theory of Interior Environments II	2
Total	15
Summer 2	
IDES 693 Interior Design Internship	4-6
Semester 3	
IDES 601 Graduate Interior Environments Studio	6
IDES 612 Advanced Graphics for Interior Environments II	2
IDES 623 Advanced Design Studies	3
IDES 626 Advanced Light and Color for Interior Environments	2
Total	13
Semester 4	
IDES 624 Advanced Furniture Design or Elective	2-3
IDES 631 Ethics and Business Procedures	2
IDES 690 Graduate Seminar	3
IDES 699 Creative Project/Thesis	6
Total	13-14
Program total	60-72

\* Candidacy/portfolio review occurs during the second semester.

## Visual communications track

### Admission requirements summary

Visual communications track			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall only	Feb 1	
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The graduate program in visual communications is oriented toward individuals interested in pursuing a career in design education and/or furthering their professional practices, in conducting visual or theoretical research, and in investigating the intersections of function and expression in design problem solving.

## Specific admission requirements

The priority deadline for fall admission is Feb. 1. The program will continue to review applications on a space-available basis until June 30.

## Undergraduate preparation

The 36 semester credits in studio art should include a minimum of 20 semester credits in visual communications and/or related fields. Under special circumstances, these requirements may be waived.

## Portfolio

A minimum of 20 and a maximum of 40 images that demonstrate visual organization, creative problem-solving ability and potential for research and growth are required. Portfolios may be submitted in either slides or CDROM (PDF files preferred). Under special circumstances, these requirements may be waived; applicants are accepted into a provisional course of study.

## Interview

The department strongly recommends that applicants arrange an interview with the associate chair to meet with graduate faculty and current students and to tour facilities. Applicants may contact the department to schedule an interview.

## Typical program pattern

Semester I	Credits
Visual communications workshop	4
Visual communications workshop	4
Visual communications seminar	4
Graduate elective	3
	15
Semester II	
Research methods in visual communications	4
Visual communications workshop	4
Visual communications seminar	4
Graduate elective	3
	15
Semester III	
Visual communications workshop	4
Directed thesis research in visual communications	4
Visual communications seminar	4
Graduate elective	3
	15
Semester IV	
Directed thesis research in visual communications	8
Visual communications seminar	4
Research documentation and exhibition design	3
	15

## Fibers (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the fibers track, see the [Master of Fine Arts in Fine Arts](#).

## Fine Arts, Master of Fine Arts (M.F.A.)

### Admission requirements summary

Fine Arts, Master of Fine Arts (M.F.A.)			
Indicate specialization: ceramics, fibers, furniture design, glassworking and jewelry/metalworking; kinetic imaging; painting or printmaking; photography and film; or sculpture			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

Students may be admitted to one of the following School of the Arts Master of Fine Arts degree tracks: ceramics, fibers, furniture design, glassworking, jewelry/metalworking, painting, photography and film, printmaking or sculpture. Students completing the M.F.A. in Fine Arts will be prepared for professional artistic practice directed toward the creation of works of art, the application and transmission of knowledge about works of art and their interrelationships with

each other and with other aspects of culture. The graduate program advances the development of:

- Individual studio and scholarly talents, interests and philosophies, used creatively to both expand and preserve our cultural heritage
- Professional studio competence as exemplified by a significant body of work
- Individuals with the potential to solve contemporary problems in all aspects of the visual arts and to explore and address new questions and issues
- Professional competence in the dissemination of knowledge, including logical, clear verbal and written presentation of aesthetic ideas in teaching and other contexts
- Scholarly competence in the organization, evaluation and interpretation of knowledge

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

#### **Student learning outcomes for concentration in ceramics, fiber, furniture design, glassworking and jewelry/metalworking**

- The students will demonstrate an understanding and proficiency in craft, design and art.
- The students will demonstrate and understand the symbolic relationship and potential impact of contemporary craft and art on culture. Students will be able to contextualize individual artistic research within art history and contemporary art.
- The students will be able to use knowledge gained from critique to improve creative work. The students will demonstrate proficiency in critiquing peers creative work. The students will be able to demonstrate critical thinking about one's own work and that of others.
- The students will demonstrate proficiency of basic, intermediate and advanced craft techniques within their specific field media.
- The students will demonstrate an understanding of the career demands of a contemporary craft artist, and how to pursue a career through multiple paths.
- The students will be able to develop comprehensive and unique portfolios. Students will be able to develop and articulate one's own ideas conceptual and formal via conversation, presentation skills and writing.
- The students will develop an understanding in their ability to interpret their individual motivation in their artwork and studio practice. Students will be able to maintain a self-motivated and self-directed mode of research/studio practice.

#### **Student learning outcomes for concentration in kinetic imaging**

Through studio reviews, seminars and research, the students are expected to build an awareness of contemporary and historical definitions of art that will influence their creative work.

#### **Student learning outcomes for concentration in painting and printmaking**

- Define work in relation to history and practice
- Engage fully in critical discourse
- Enlarge of knowledge of materials and techniques
- Develop professional practice: engage in opportunities that develop the experience required to manage a creative professional career

#### **Student learning outcomes for concentration in photography and film**

- Students will demonstrate a familiarity with contemporary critical theory and an ability to apply and investigate those ideas in their work.
- Students will gain and display advanced skills in conceptual and technical use of the medium.
- Students will be able to create photographs and films that display an advanced level of intelligence and artistic vision.

#### **Student learning outcomes for concentration in sculpture**

- Define work in relation to history
- Take full advantage of program resources
- Develop knowledge of equipment and techniques

- Develop professional practices

## **Admission requirements**

### **Undergraduate preparation**

In addition to the School of the Arts admission requirements, applicants in the visual arts must have completed a minimum of 36 semester hour credits in art at the undergraduate level.

### **Portfolio**

Refer to the specific specialization for the portfolio requirements.

## **Characteristics of the program**

In M.F.A. studio art programs, assessment of progress is conducted on a regular and periodic basis through scheduled critiques and final course critiques and evaluations. Students have frequent opportunities to exhibit their work in the context of their educational programs. They are encouraged to develop and present their work in circumstances that develop connections with the professional world related to their course of study. Students are admitted to degree candidacy after receiving approval by a faculty review committee.

## **Program requirements**

Each specialization within the M.F.A. in Fine Arts program requires specific course work. Refer to the specific specialization for the program pattern. The M.F.A. candidate is required to present a final body of work demonstrating professional competence. This usually takes the form of an exhibition, written statement and oral review by a graduate faculty committee. The documentation of the culminating work is done in a form that can be retained by the university.

### **Specializations**

- Ceramics, fibers, furniture design, glassworking or jewelry/metalworking
- Kinetic imaging
- Painting or printmaking
- Photography and film
- Sculpture

## **Ceramics, fibers, furniture design, glassworking and jewelry/metalworking**

## **Admission requirements summary**

### **Fine Arts, Master of Fine Arts (M.F.A.)**

Indicate specialization: ceramics, fibers, furniture design, glassworking and jewelry/metalworking

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA

### **Special requirements:**

Please see [www.vcu.edu/arts/prospective\\_students/graduate\\_studies](http://www.vcu.edu/arts/prospective_students/graduate_studies) for details on the application process.

The M.F.A. program requires 60 credits, which students usually complete in two years of full-time study. The majority of credits are taken in the student's area of specialization. Graduate seminars, art history courses and other studio/academic electives round out the graduate student's individualized program. Studio visits and critiques with visiting artists are an important aspect of the program.

Within the studio concentration, emphasis is placed on self-motivation, individual investigation, and the development of professional attitudes and skills. Graduate students are expected to demonstrate a serious commitment to their work and to develop mature ideas and forms of expression. Admission to the graduate program is highly selective and competitive.

Graduate students interact formally and informally with the faculty in their areas and with other faculty in the School of the Arts. Each graduate student works closely with a faculty committee that meets twice a semester for critiques and discussions. At the end of the first year, students present their work to their committee and departmental faculty in a candidacy review. At the successful completion of the 60 credits, a thesis exhibition is mounted at the university's Anderson Gallery or at an alternative venue.

**Student learning outcomes**

- The students will demonstrate an understanding and proficiency in craft, design and art.
- The students will demonstrate and understand the symbolic relationship and potential impact of contemporary craft and art on culture. Students will be able to contextualize individual artistic research within art history and contemporary art.
- The students will be able to use knowledge gained from critique to improve creative work. The students will demonstrate proficiency in critiquing peers creative work. The students will be able to demonstrate critical thinking about one's own work and that of others.
- The students will demonstrate proficiency of basic, intermediate and advanced craft techniques within their specific field media.
- The students will demonstrate an understanding of the career demands of a contemporary craft artist, and how to pursue a career through multiple paths.
- The students will be able to develop comprehensive and unique portfolios. Students will be able to develop and articulate one's own ideas conceptual and formal via conversation, presentation skills and writing.
- The students will develop an understanding in their ability to interpret their individual motivation in their artwork and studio practice. Students will be able to maintain a self-motivated and self-directed mode of research/studio practice.

**Admission requirements**

In addition to the requirements specified in the M.F.A. in Fine Arts section of this bulletin, students are required to submit a portfolio. Please see the [departmental Web site](#) for details.

**Specialization requirements****M.F.A. in Fine Arts – ceramics, fibers, furniture design, glassworking or jewelry/metalworking**

Program pattern	credits
Studio	42
Electives, including art history	9
Graduate seminar	9
	<hr/> 60

**Kinetic imaging****Admission requirements summary**

Fine Arts, Master of Fine Arts (M.F.A.)			
Indicate specialization: kinetic imaging			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Department of Kinetic Imaging is committed to the artistic exploration of video, animation and sound. The M.F.A. program emphasizes the extension of these practices into the arts and their connection to contemporary issues in visual culture.

Graduate students are exposed to a vigorous visiting artist schedule. Through studio reviews, seminars and research, the students are expected to build an awareness of contemporary and historical definitions of art that will influence their creative work. In addition to their own investigations, graduate students participate in and contribute to the undergraduate program.

While the graduate program is generally a two-year, four-semester in-residence program, students are expected to continue studio pursuits either on campus or at an alternative site throughout the calendar year.

**Student learning outcomes**

Through studio reviews, seminars and research, the students are expected to build an awareness of contemporary and historical definitions of art that will influence their creative work.

**Painting or printmaking****Admission requirements summary**

Fine Arts, Master of Fine Arts (M.F.A.)			
Indicate specialization: painting or printmaking			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Master of Fine Arts program is based on intensive studio practice at an advanced level in the areas of painting and printmaking. The program is highly selective and is presently limited to 15 participants.

The Master of Fine Arts degree program in painting or printmaking requires 60 credits and is usually completed in two years of full-time study. Most of these credits are in studio areas and are augmented by related courses in specialized academic fields. A graduate seminar meets weekly and addresses topics related to contemporary art and theory. Two semesters of Art and Critical Theory, a course that surveys the major themes of contemporary art criticism, also are required.

Graduate students meet with individual committees composed of three faculty members. Each committee and student conducts an ongoing dialogue and critique. At the end of the second semester students discuss their work at a candidacy critique comprised of their committee and additional faculty. M.F.A. recipients mount a comprehensive exhibition of their work at the university's Anderson Gallery at the successful conclusion of the program's second year.

**Student learning outcomes**

- Define work in relation to history and practice
- Engage fully in critical discourse
- Enlarge of knowledge of materials and techniques
- Develop professional practice: engage in opportunities that develop the experience required to manage a creative professional career

**Admission requirements**

In addition to the requirements specified in the M.F.A. in Fine Arts section of this bulletin, students are required to submit a portfolio. The portfolio should consist of 20 slides of representative work from the chosen specialization (either painting or printmaking). Digital portfolios in the form of a PowerPoint presentation or a folder of JPEG files, sized no larger than 1024x1024@72 dpi, are accepted.

Slides should be sent in a clear plastic slide sheet with an information page that includes title, size, medium and date for each work. Digital portfolios should include the title, size, medium and date within the PowerPoint presentation or in a separate information document. Word or plain text is acceptable.

**Specialization requirements****M.F.A. in Fine Arts – painting or printmaking**

Program pattern	credits
<b>First semester</b>	
Major departmental studio	6
Approved graduate elective	3
Art and critical theory (PAPR 527)*	3
Graduate seminar (PAPR 690)***	3
	<hr/> 15
<b>Second semester</b>	

Major departmental studio	6
Approved graduate elective	3
Art and critical theory (PAPR 528)*	3
Graduate seminar (PAPR 690)***	3

15

**Third semester**

Major departmental studio	6
Approved graduate elective	3
Non-studio graduate elective	3
Graduate seminar (PAPR 690)***	3

15

**Fourth semester**

Major departmental studio**	9
Approved graduate elective	3
Graduate seminar (PAPR 690)***	3

15

60

\* Students who received credit as VCU undergraduate students for PAPR 527, 528, may substitute for a non-studio graduate elective.

\*\* An exhibition will be required as a prerequisite for graduation.

\*\*\* Enrollment in the graduate seminar is mandatory for the duration of the student's study in the graduate program.

## Photography and film

### Admission requirements summary

Fine Arts, Master of Fine Arts (M.F.A.)			
Indicate specialization: photography and film			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The program is designed to be flexible. Participants in the program may use either traditional or electronic technology to accomplish their personal goals. The program culminates with the presentation of a body of work, both written and visual, that coherently expresses some aspect of the medium.

The successful candidate for the M.F.A. in Fine Arts degree will be prepared to function as an artist working in photography or film and to begin a career in teaching photography or film.

**Student learning outcomes**

- Students will demonstrate a familiarity with contemporary critical theory and an ability to apply and investigate those ideas in their work.
- Students will gain and display advanced skills in conceptual and technical use of the medium.
- Students will be able to create photographs and films that display an advanced level of intelligence and artistic vision.?

## Admission requirements

**Undergraduate preparation**

Thirty-six semester hour credits in studio art at the undergraduate level are preferred; they should include a minimum of nine semester hour credits in

photography or cinematography. Applicants who do not meet these requirements may be considered.

**Portfolio**

A portfolio is required for admission to this program. Please see the [departmental Web site](#) for details.

## Degree requirements

The advanced study of photography and film is both broad and varied. Therefore, the program's requirements are flexible and determined by the needs of each student on an individual basis. There are, however, a few definite requirements. On completion of the program, each student must have knowledge of contemporary art history, a more in-depth knowledge of the history of his or her discipline and an understanding of the critical dialogue that is connected with his or her medium. Courses are suggested for students to meet these requirements, based on their background.

**Typical program pattern**

	credits
Photographic studio	24
Seminar in photography and film	12
Research in photography and film	9
Approved electives	12
Graduate exhibition	3
	60

## Sculpture

### Admission requirements summary

Fine Arts, Master of Fine Arts (M.F.A.)			
Indicate specialization: sculpture			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall	Jan 15	TBA
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

Both formal and informal contact with faculty are designed into the program. Along with the Department of Sculpture's faculty, graduate students are exposed to a vigorous visiting artist schedule. Through studio reviews, seminars and research, the students are expected to build an awareness of contemporary and historical definitions of art that will influence their creative work. In addition to their own investigations, graduate students participate in and contribute to the undergraduate program.

While the graduate program is generally a two-year, four-semester in-residence program, students are expected to continue studio pursuits either on campus or at an alternative site throughout the calendar year.

**Student learning outcomes**

- Define work in relation to history
- Take full advantage of program resources
- Develop knowledge of equipment and techniques
- Develop professional practices

## Specialization requirements

**M.F.A. in Fine Arts – sculpture****Program pattern**

	credits
<b>First semester</b>	
Studio (graduate sculpture)	8
Elective	3



Graduate seminar*	4
	15
<b>Second semester</b>	
Studio (graduate sculpture)	8
Elective	3
Graduate seminar*	4
	15
<b>Third semester</b>	
Studio (graduate sculpture)	8
Elective	3
Graduate seminar*	4
	15
<b>Fourth semester</b>	
Studio (graduate sculpture)	8
Elective	3
Graduate seminar*	4
	15

\* Enrollment in the graduate seminar is mandatory for the duration of the student's study in the graduate program.

### Furniture design (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the furniture design track, see the [Master of Fine Arts in Fine Arts](#).

### Glassworking (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the glassworking track, see the [Master of Fine Arts in Fine Arts](#).

### Jewelry/metalworking (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the jewelry/metalworking track, see the [Master of Fine Arts in Fine Arts](#).

### Kinetic imaging (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the kinetic imaging track, see the [Master of Fine Arts in Fine Arts](#).

### Media, Art, and Text, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Media, Art, and Text, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 15	GRE-General
Special requirements:			
Additional materials to be submitted directly to Thom Didato. For specific instructions please see <a href="http://www.has.vcu.edu/eng/graduate/admission.htm">www.has.vcu.edu/eng/graduate/admission.htm</a>			

VCU's interdisciplinary doctoral program in media, art, and text is a joint endeavor of the Department of English, the School of the Arts and the School of Mass Communications. The program emphasizes the historical and theoretical foundations essential to the scholarly study of media, both old and new, broadly defined. It provides an intellectually stimulating environment that encourages students to work both collaboratively and independently, as well as across and

between disciplines and media. Students maintain a base in their primary area of research, which is usually but not always the field in which they have done prior graduate work.

#### Student learning outcomes

- Students will develop advanced communication skills in writing, speaking and the use of multimedia.
- Students will demonstrate a broad knowledge of history and theory as the foundation for interdisciplinary work in a specialized facet of media, art and/or text.
- Students will develop competence in interdisciplinary and disciplinary research methods and responsible conduct of research.
- Students will develop specialized knowledge in relevant fields to support dissertation and subsequent research.
- Students will demonstrate the ability to conduct independent research and produce new, specialized knowledge within the broad parameters of media, art and text.
- Students will develop a strong basis for ongoing professional practice.

#### Curriculum

The 42-hour curriculum comprises 36 hours of course work and a minimum of six hours of dissertation research. Course work includes a core of four required courses taken during the first two semesters by all incoming students. Three doctoral seminars provide a shared historical and theoretical foundation for the study of media, art, and text, while a workshop offers the opportunity to develop and expand professional and/or creative skills relevant to the student's career goals and research focus. In addition, all students will take a research methods course in a field relevant to their anticipated area of dissertation research.

Beyond the core, students select 21 hours of elective credits from course offerings in disciplines relevant to their research interests and career goals. The program offers a topics seminar focused on the history, theory or practice of media, art, and text. Independent study and internships are also available as electives. While enrollment in courses with the MATX prefix is guaranteed to matriculated MATX students, enrollment in other graduate courses is subject to the conditions established by individual units.

Together the core and the electives support the interdisciplinary work of the dissertation, which is an original scholarly examination of some aspect of media, art, and/or text. It may include work in media other than text. It is supervised by a committee consisting of four or five members drawn from disciplines relevant to the research topic.

#### Core courses (12 credits)

- MATX 601 Texts and Textuality
- MATX 602 History of Media, Art, and Text
- MATX 603 History of Interdisciplinarity and Multimedia
- MATX 604 Workshop

#### Methods course (3 credits)

#### Electives (21 credits)

#### Dissertation (6 credits minimum)

#### Degree requirements

#### Credit requirements

Students are required to complete 36 credit hours in core and elective courses and a minimum of six credit hours of dissertation research. Core courses are offered through the MATX program. Additional elective courses are drawn from seminars offered through MATX and approved courses in participating units.

#### Grade requirements

To graduate, degree applicants must achieve an overall grade point average of 3.0 (B) on a 4.0 scale with a grade of C in no more than two courses. The GPA for graduation will be based on all graduate courses attempted after acceptance into the program.

#### Requirements for admission to candidacy

Before beginning formal dissertation research, students must complete all 36 hours of required course work, both stages of the e-portfolio and the requirements described below. Upon completion of these, the student will apply for degree candidacy.

## Dissertation committee

The dissertation committee consists of the director (who must hold a Ph.D.) and three or four additional members whose scholarly knowledge and interests are relevant to the project. The committee must have at least one member from each of the sponsoring units (Department of English, School of the Arts, School of Mass Communications). All must be members of VCU's graduate faculty. Appropriate faculty from outside VCU may serve on committees (but not as director) with the approval of the MATX director and the graduate dean. It is the student's responsibility to assemble the committee, in consultation with the dissertation director. Committees will not be appointed by the program.

## E-portfolio

Work on the e-portfolio will begin in MATX 604 in the spring of the first year. There are no technical specifications, and content will include, but is not limited to, work done in the first two years in the program. It will take the form of a website and must demonstrate the technical skills (Web design, audio, video, etc.) relevant to the student's work on the dissertation and the career sought after VCU.

Submission is a two-stage process:

- Stage 1: May of the first year  
A three- to five-page design rationale for the portfolio site along with a mock-up or rough structure
- Stage 2: April of the second year  
A finished, live site accompanied by a five-page statement relating it to the student's work inside and outside the program and outlining how it uses media techniques to promote a specific professional and/or creative identity

Each submission is graded pass/fail and may be repeated once. A second failure results in automatic termination from the program.

## Competency

Candidates must demonstrate competency in a skill or technique relevant to the dissertation research or planned professional career. The dissertation committee approves and administers the competency portion. Graded pass/fail, the test may be repeated once.

## Bibliography exam

On a reading list of 20 to 30 sources relevant to or supportive of the dissertation topic. The dissertation committee approves and administers the bibliography exam. Graded pass/fail, the test may be repeated once.

## Dissertation prospectus and prospectus defense

The prospectus is a 15- to 20-page document that indicates the significance of the proposed research, gives a short review of relevant literature, states the research question, specifies the proposed methodology and indicates how the project lays the foundation for the anticipated academic or professional career. It also includes a work plan for the completion of research and writing, as well as a complete bibliography. The prospectus is defended orally before the dissertation committee, which may accept, reject or require revisions. The defense may be repeated once.

## Dissertation and dissertation defense

The dissertation is an original, interdisciplinary and scholarly examination of a topic relevant to an aspect of media, art, and/or text. It may include work in media other than text. Given the varied nature of doctoral research, there is no set time frame for completion of a dissertation. It is expected, however, that the dissertation will be completed about two years after attaining candidacy. The dissertation will be defended orally before the dissertation committee. Successful defense of the dissertation completes the requirements for the degree.

## Painting (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the painting track, see the [Master of Fine Arts in Fine Arts](#).

## Photography and film (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the photography and film track, see the [Master of Fine Arts in Fine Arts](#).

## Printmaking (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the printmaking track, see the [Master of Fine Arts in Fine Arts](#).

## Sculpture (see Fine Arts, Master of Fine Arts, M.F.A.)

For information on the sculpture track, see the [Master of Fine Arts in Fine Arts](#).

## Department of Art Education

The Department of Art Education supports instruction in art that encourages the construction of meaning. Faculty and students are actively involved with the art world, education and local and global communities through art-based service-learning, visual culture studies, critical thinking, exhibition, assessment, curriculum, critical theory and emerging digital technologies (virtual and interactive).

The department emphasizes interdisciplinary connections throughout the School of the Arts and the university as a whole. Through their own research and instruction, art teacher candidates engage their students and themselves in traditional and nontraditional forms of inquiry to contribute to the continuing growth and strength of the profession.

## Administration

**Sara Wilson McKay**

Associate Professor and Interim Department Chair

[www.vcu.edu/arts/arteducation](http://www.vcu.edu/arts/arteducation)

## Art education courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to art education ([ARTE](#)) courses.

## Art Education, Master of (M.A.E.)

### Admission requirements summary

Art Education, Master of (M.A.E.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.E.	Fall	Jan 15	GRE (required if GPA is below 3.0) and/or Praxis I recommended
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

Through engagement with theory, research and emerging technologies, the Master of Art Education program prepares art educators to be mindful professionals who are active in the field of art education.

The Master of Art Education offers two specific tracks. One track is for teachers who are already licensed and who wish to deepen their understanding of art education. The second is for people who hold a baccalaureate degree and wish to earn both a master's degree in art education and a teaching license at the same time.

The program includes required and elective courses and allows students to pursue their areas of interest. All students are expected to work at a high level of independence, be self-motivated, respect peers and instructors and participate in the opportunities that the Department of Art Education and the School of the Arts offer. With the assistance of the adviser, the student determines a viable structure for the content and sequence of a program of graduate studies. Such a program can utilize the collective expertise of the art education faculty as well as appropriate community resources. Graduate course work, therefore, could include both on-campus and off-campus involvement.

Opportunities for personal growth through the M.A.E. program also include the rich resources of other graduate departments in the university in the visual and performing arts, education (including supervision, administration and special

areas), the natural and social sciences and the humanities. Alternative approaches to traditional thesis methods are also encouraged within the program.

### Student learning outcomes

1. **Knowledge of current issues in the field.** Students will be able to demonstrate knowledge of current issues in the field as related to their development of a viable research proposal as evidenced by the Department of Art Education candidacy exam rubric.
2. **Theories in art education.** Students are able to analyze and demonstrate an understanding of varying points of view regarding theories in art education through their analysis of a theorist's work.
3. **Issues and methods of inquiry.** Students will be able to demonstrate awareness of the important issues and methods of inquiry used in the field as evidenced by their successful completion of their course work and their final comprehensive examination or thesis rubric.
4. **Reflective practice.** Students will be able to demonstrate an understanding of reflective practice and action research through designing a framework to assess their educational practice (teaching, museum education, community arts programming, volunteering, service-learning, etc.)

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

## Admission requirements

### Undergraduate preparation

In addition to the School of the Arts admission requirements, applicants in art education must have completed a minimum of 36 semester-hour credits in studio art at the undergraduate level. It is desirable for applicants to have had at least two years of teaching experience prior to beginning graduate studies.

### Portfolio

Applicants must submit a digital portfolio through the School of the Arts online application system. The portfolio must include 10 to 15 images of the applicant's work. In addition to the 10 to 15 images of personal artwork, applicants may also submit clearly labeled images of student work through the online system. CDs, slides, photographs, etc. will not be accepted for the portfolio requirement.

## Degree requirements

Program pattern for M.A.E.*	Credits
ARTE 611 Theory and Literature in Art Education (required first semester)	3
ARTE 665 Curriculum Development and Evaluation	3
ARTE 670 Technology in Art Education	3
ARTE 690 Issues and Methods of Inquiry in Art Education	3
Additional ARTE (600-level or higher)	3
Approved electives	15
Thesis, curriculum project or comps option	6
<b>Total minimum requirement</b>	<b>36</b>

\* Please note for the students who are also pursuing licensure that there are additional requirements including: EDUS 301, ARTE 404, ARTE 550, ARTE 501, ARTE 502 and a semester of student teaching. The electives in the above formula account for many of these courses. An M.A.E. plus licensure requires 49-52 credits.

### Degree candidacy

After successfully completing nine credits, including ARTE 611, and before completing 18 credits, all students are required to submit a written exam. This exam will determine whether a student is ready to proceed to the final stages of the degree program. Failure to submit this required exam, failure to follow directions in the formatting of the exam or failing the exam may result in dismissal from the program.

### Thesis or project option

A thesis or project option may develop from graduate course work or professional involvement. Projects are those endeavors of thesis proportion that do not fit the traditional thesis format. A thesis or project may be explored by descriptive research, historical research, empirical/statistical research, design of learning packages, philosophical study, curriculum development, action research or other methodology as deemed appropriate by the student's adviser and committee.

### Comprehensive exam option

In lieu of the thesis, students may complete six credit hours of graduate course work in the Department of Art Education. These six credits must be at or above the 600 level and cannot include independent study or thesis courses. Any exception must be approved by the graduate programs committee before the student enrolls in the course. The selection of these six credits is subject to the approval of the student's adviser. In addition, the student must successfully pass a written and oral comprehensive examination at the conclusion of all course work. The examination will pertain to the course work, to contemporary issues in the field and to the student's particular area of expertise. This option is suggested for students pursuing the track that results in the M.A.E. and simultaneous teaching licensure.

If a student does not pass all portions of the comprehensive exam, she or he will have one opportunity to retake the exam the following semester. If the student fails the exam on the second attempt, he or she will be dismissed from the program and will not be eligible to graduate from the Department of Art Education.

## Department of Art History

The Department of Art History offers programs that acquaint students with the humanistic discipline of art historical inquiry. While providing students with the opportunity for a broad education drawing on the liberal arts and humanities, the department also emphasizes a close bond with the studio and performing arts and enjoys a close relationship with the other departments in the School of the Arts.

The department offers a broad-based education in the humanistic discipline of art history at the baccalaureate, master's and doctoral levels.

Overseas studies are available through university-sponsored programs abroad in Europe and Asia. Graduate assistantships and fellowships are available to full-time graduate students.

## Administration

### Michael Schreffler

Associate Professor and Department Chair

[www.vcu.edu/arts/arhistory](http://www.vcu.edu/arts/arhistory)

## Art history courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcuourses](http://www.pubapps.vcu.edu/vcuourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to art history ([ARTH](#)) courses.

## Art History, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Art History, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall only	Jan 15	GRE
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Ph.D. in Art History is a research-oriented degree designed to train critical and productive scholars who are well-grounded in the literature, methodology and major art historical problems in a designated area of study. The program's focus is on interdisciplinary and multicultural studies utilizing new critical methodologies.

The curatorial track within the doctoral program in art history trains critical and productive scholars who are equipped to produce museum publications or programs and administer projects, departments or institutions. The program is

administered in partnership with the Virginia Museum of Fine Arts, whose curators teach selected art history and museum studies courses, provide mentorship to museum research fellows and serve on dissertation committees.

Doctoral students will undertake an established program of course work and will be engaged in directed research and scholarly exposition within specialized areas of art historical inquiry.

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

#### Student learning outcomes

1. Engage critically with art historical theories and methods
2. Acquire in-depth knowledge of chosen subject area
3. Professional development
4. Develop advanced skills in oral and written communication

### Admission requirements

Prospective students holding a master's degree in art history from VCU or any other accredited institution may apply directly to the doctoral program. In addition to all required VCU graduate application materials, applicants should submit either a completed master's thesis or two writing samples. A personal interview with the director of graduate studies and the prospective adviser is strongly encouraged prior to submitting an application. Prospective students with master's degrees in other fields may also apply, although additional course work may be required.

Prospective students who hold only a B.A. in art history or related field also may apply directly to the Ph.D. program but, if admitted, will need to complete the equivalent of the M.A. degree, including the thesis, before beginning Ph.D. course work. In addition to the School of the Arts requirements, applicants should have completed a minimum of 21 undergraduate semester credits in art history with additional work in relevant humanities and social science courses, such as English, philosophy, foreign language and history. Applicants should include with their application an undergraduate research paper in art history to serve as a writing sample. Students whose undergraduate training is less extensive may be admitted provisionally and subsequently attain full graduate status. Upon completion of M.A. course work (generally the beginning of the fourth semester), students wishing to continue in the Ph.D. program must secure the support of the prospective dissertation adviser and submit a formal request to the Graduate Committee. To continue students must maintain a minimum GPA of 3.8. If approved by the Graduate Committee, students will commence their Ph.D. course work the next semester, pending successful completion of the master's thesis.

Upon completion of the first nine credits of course work (first semester), the student will choose a program adviser, who, together with the departmental chair of the Graduate Committee, will advise the student in establishing a program of study.

For application materials, write to: Director of Graduate Studies, Department of Art History, 922 W. Franklin St., Richmond, VA 23284-3046.

### Degree requirements

Course work beyond the master's degree in art history:

	credits
Major area	9
Minor area	6
Art history electives	9
Dissertation	6
	<hr/> 30

The requirements of the Graduate School for candidacy exams and dissertation committees apply to participants in this program. Part-time study for portions of the program is possible.

### Requirements for the Ph.D. degree

Doctoral students must demonstrate competency in two foreign languages before admission to candidacy. Foreign language competency demonstrated for an M.A.

may be applied to this degree with departmental approval. Although French and German are typically the two languages of proficiency, a student may be required to demonstrate competency in other languages for study in particular areas. Students must take one departmental language exam in their first academic semester and, if necessary, the second in the second academic semester. Requests to repeat the exam more than once in a given language require departmental approval.

Ph.D. students must satisfy each of the following criteria for successful completion of the program: a) 24 credits of prescribed graduate course work beyond the master's degree; this must include a minimum of six credits in Western and six credits in non-Western areas, and a minimum of 12 credits in seminar courses; b) all language proficiency requirements; c) the comprehensive slide and field examinations; d) attend three professional development workshops; e) approved dissertation proposal with candidacy granted; and f) completed dissertation and successful defense. All degree requirements must be completed within seven years of the first semester of enrollment in the doctoral program.

### Majors and concentration

Ph.D. students must select major and minor areas under the direction of two different full-time department faculty members. The same faculty members may not supervise both areas for a single student. Students will select an area of minor concentration, which may be from any area of art historical inquiry outside the major or, upon approval of the Graduate Committee, may be outside the department. Students will be particularly encouraged to undertake cross-cultural investigations.

Nine credits will be taken in the major area and six in the minor; nine additional elective credits may be taken from any art history area. With approval of the Graduate Committee, students may substitute three elective credits with a course outside of the department.

Requirements for the curatorial track include course work in museum studies and nonprofit management, as well as museum internships.

### Comprehensive exam/admission to candidacy

All master's and doctoral students enrolled in the graduate program in art history must pass the departmental comprehensive slide examination given each semester. Doctoral students will be required to pass a field comprehensive examination, which may consist of written and oral components. After satisfactory completion of the comprehensive examination and demonstration of proficiency in two languages, the student will work with an adviser to establish a committee and will submit to said committee a dissertation proposal. Upon approval of the dissertation proposal, candidacy for the doctoral degree will be granted. Only after candidacy is granted may a student enroll for dissertation credits. (A student who does not pass the comprehensive examination may take that exam a second time. This second examination must be taken within six months of the first attempt.)

### Dissertation

After admission to candidacy, participants proceed to complete and defend their dissertation. This is done under the supervision of the dissertation director working in concert with the dissertation committee. Participants are required to maintain continuous enrollment of at least three credit hours per semester (excluding summer) until they have attained six hours of dissertation credit, after which they may enroll for as few as one credit per semester. The number of credit hours per semester is expected to reflect the intensity of use of university resources, especially faculty time. The dissertation must represent independent research that is devoted to an original question or hypothesis with the appropriate development, analysis and interpretation. Successful defense of the dissertation completes the requirements for the degree.

### Financial assistance

Although financial assistance is limited, funds are available. No prospective student should refrain from seeking admission to the school for financial reasons alone. However, since funds available through the School of the Arts are limited, applicants are strongly urged to seek additional sources to finance their education.

### Research and teaching assistantships

Research and teaching assistantships may be available to doctoral students. Additional information is available from the director of graduate studies, Department of Art History.



## Art History, Master of Arts (M.A.)

### Admission requirements summary

Art History, Master of Arts (M.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall only	Jan 15	GRE
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Master of Arts program offers three different tracks:

M.A. in Art History – historical studies

M.A. in Art History – architectural history

M.A. in Art History – museum studies

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

### Student learning outcomes

1. Engage critically with art historical theories and methods
2. Acquire in-depth knowledge of chosen subject area
3. Professional development
4. Develop advanced skills in oral and written communication

### Architectural history track

The Department of Art History offers a master of arts degree with a track in architectural history. While concentrating in architectural history, students are required to take courses in art history as well as museum studies and/or urban studies and planning. Such a program is designed for students who wish to pursue careers as academicians or practitioners in the field, as well as for those who wish to pursue a doctoral degree. The courses taken in museum studies, or in conjunction with the Department of Urban Studies and Planning, provide a unique interdisciplinary approach to the study of architectural history.

### Admission requirements

In addition to the School of the Arts requirements, applicants should have completed a minimum of 21 undergraduate semester credits in art and/or architectural history, of which six credits must be in the survey of architectural history. Some basic drafting experience also is recommended. Additional work in relevant humanities and social sciences, such as literature, philosophy, foreign language and history is necessary. Applicants should include with their application an undergraduate research paper in art history to serve as a writing sample. Students whose undergraduate training is less extensive may be admitted provisionally and subsequently attain full graduate status.

### Degree requirements

A total of 39 credits in course work and thesis

	credits
Architectural history	12
Art history (period courses)	9
Historiography and methodology	3
Urban studies and urban planning and/or museum studies	9
Thesis	6
	<hr/> 39

At least 12 of the architectural and art history credits must be taken at the 600 or 700 level. Students must earn a minimum grade of B in ARTH 690 Historiography and Methodology of Art History in order to enroll in subsequent graduate-level art history courses.

Students must demonstrate a reading knowledge of German or any appropriate Romance language by passing a departmental exam. All students must take the relevant departmental language exam during the first academic semester. Requests

to repeat the exam more than once in a given language require departmental approval.

Students also must demonstrate general programmatic competence in art history by passing a comprehensive examination taken sometime toward the end of the course work.

The master's program culminates with a thesis, written under the direction of a departmental adviser and a thesis committee.

For more complete information and details on these procedures, contact the Department of Art History.

### Historical studies track

Graduate studies leading to the M.A. degree in art history are intended to train students to become creative and accomplished teachers and scholars in the discipline of art history. The program is designed to provide a comprehensive knowledge of the major areas and historical periods of art as well as the various research and methodological skills requisite to the field.

The requirements listed below are in conjunction with School of the Arts graduate admission and degree requirements.

### Admission requirements

In addition to the School of the Arts requirements, applicants should have completed a minimum of 21 undergraduate semester credits in art history with additional work in relevant humanities and social science courses, such as English, philosophy, foreign language and history. Applicants should include with their application an undergraduate research paper in art history to serve as a writing sample. Students whose undergraduate training is less extensive may be admitted provisionally and subsequently attain full graduate status.

### Degree requirements

A total of 30 credits in course work and thesis

	credits
Art history (period courses)	21
Historiography and methodology	3
Thesis	6
	<hr/> 30

At least 12 of the 21 art history credits must be taken at the 600 or 700 level; if the student's focus is Western art, at least one course must be in a non-Western area and vice versa. Students must earn a minimum grade of B in ARTH 690 Historiography and Methodology of Art History in order to enroll in subsequent graduate-level art history courses.

Students must demonstrate a reading knowledge of German or any appropriate Romance language by passing a departmental exam. All students must take the relevant departmental language exam during the first academic semester. Requests to repeat the exam more than once in a given language require departmental approval.

Students also must demonstrate general programmatic competence in art history by passing a comprehensive examination, taken sometime toward the end of the course work.

The master's program culminates with a thesis, written under the direction of a departmental adviser and a thesis committee.

For more complete information and details on these procedures, contact the Department of Art History.

### Museum studies track

The program in museum studies stresses those attitudes and skills necessary to accomplish the major goals of any professional museum operation: to collect, preserve, exhibit and interpret the art and artifacts of the past and present within an extended curriculum and professional museum environment. The course of study also includes an internship for academic credit under the direct supervision and professional guidance of individuals in the field.



The curriculum provides a broad overview of historical developments, institutional responsibilities and theoretical issues relevant to contemporary museum practice. And it offers a practical and scholarly foundation upon which students may build curatorial careers that include exhibit and/or education program development.

## Admission requirements

In addition to the School of the Arts admission requirements, applicants should have completed a minimum of six credits in the survey of western art, nine credits of period studies and some undergraduate work in the humanities. Applicants should include with their application an undergraduate research paper in art history to serve as a writing sample. Any applicant whose training is less extensive may be provisionally admitted and subsequently may gain full graduate status upon completion of the deficiency.

## Degree requirements

	credits
Museum studies	12
Museum internship	3
Art history (period courses)	12
Historiography and methodology	3
Museum project or thesis	6
	<hr/> 36

At least nine of the 12 art history credits must be taken at the 600 or 700 level. Students must earn a minimum grade of B in ARTH 690 Historiography and Methodology of Art History in order to enroll in subsequent graduate-level art history courses.

Students must demonstrate a reading knowledge of German or any appropriate Romance language by passing a departmental exam. All students must take the relevant departmental language exam during the first academic semester. Requests to repeat the exam more than once in a given language require departmental approval.

Students also must demonstrate general programmatic competence in museum studies and art history by passing a comprehensive examination taken toward the end of the course work.

An internship at one of the cooperating local or regional museums is a degree requirement of particular importance, enabling students to apply their knowledge and to develop a personal awareness of effective museum exhibition procedures. As a culmination to the course of study, students may opt to plan and mount a major exhibition on campus or at a museum in lieu of a written thesis with the approval of the department.

## Department of Communication Arts

### James B. Miller

Professor and Department Chair

[www.vcu.edu/arts/communicationarts](http://www.vcu.edu/arts/communicationarts)

Communication arts is the study and exploration of the qualities, disciplines and technologies that enable us to create and communicate with insight and vision. Our studies are firmly rooted in understanding the power of image and art to communicate.

Communication arts includes studies in:

- Drawing, which is the fundamental means to articulate ideas; it is elemental to everything we do.
- Illustration, a discipline with a rich history in drawing, painting, design and print media, which is being expanded by powerful new tools and technologies.
- Visual studies, which encompasses studio, historical, conceptual and theoretical issues that include analysis and exploration of image, media, content and context.

Study leads to a Bachelor of Fine Arts and students may choose an emphasis in either communication arts or scientific and preparatory medical illustration.

## Communication arts courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to communication arts (COAR) courses.

## Department of Craft and Material Studies

The Department of Craft and Material Studies is housed in the new Fine Arts Building that includes private and semi-private graduate studios. These new facilities provide a safe and excellent physical environment in which to work. Students have access to well-equipped studios in each of the five media areas along with a computer lab and wood shop. The building also houses the facilities for sculpture, painting and printmaking, and kinetic imaging. Interaction among departments is encouraged.

In addition to the Bachelor of Fine Arts in Craft and Material Studies, the department offers graduate course work leading to the Master of Fine Arts in Fine Arts degree in five disciplines: ceramics, fiber, furniture design, glassworking and jewelry/metalworking.

The M.F.A. is the terminal degree in the studio areas and is a requirement for most university teaching positions. Every effort is made to assist students in gaining valuable teaching experience while they are in the program. The department aids the students financially through a variety of scholarships and graduate assistantships. Opportunities exist for qualified students to teach courses during the academic year and in summer school.

## Administration

### Sonya Clark

Professor and Department Chair

[www.vcu.edu/arts/craft](http://www.vcu.edu/arts/craft)

## Craft and material studies courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to craft and material studies (CRAF) courses.

## Department of Dance and Choreography

### James Frazier

Associate Professor and Department Chair

[www.vcu.edu/arts/dance](http://www.vcu.edu/arts/dance)

The mission of the Department of Dance and Choreography is to create an environment where the student experiences the demands and challenges of the professional dancer/choreographer. In a community setting where communication, mutual respect and self-motivation are encouraged, classes provide students with disciplined training that will maximize their potential to become dancers of technical excellence, choreographers with original and powerful voices and thinkers with high academic standards.

Students are trained to be performers, choreographers and teachers in this curriculum, which emphasizes modern dance and offers dance courses in modern, improvisation, composition, choreography, music, and dance forms and dance history, as well as ballet, jazz, tap, hip-hop, ballroom, contact improvisation, dance science, anatomy for dancers, video/choreography and teaching methods for dance. Additionally, the program provides a variety of experiences in performance, choreography and production. These offerings enable students to develop as savvy, expressive artists with professional training in dance technique, knowledge of dance philosophies and a foundation in history, enabling them to function as independent and creative artists in the field of dance. VCU Dance is an accredited member of the National Association of Schools of Dance.

## Dance and choreography courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to to dance and choreography ([DANC](#)) courses or the [DANZ laboratories](#).

## Department of Fashion Design and Merchandising

**TBA**

Department Chair  
[www.vcu.edu/arts/fashion](http://www.vcu.edu/arts/fashion)

The Department of Fashion Design and Merchandising offers two programs: the fashion design track leads to a Bachelor of Fine Arts degree and the fashion merchandising track leads to a Bachelor of Arts degree.

Both tracks are extremely time consuming. Students are expected to put class attendance and study time above other campus activities or employment.

All students are required to have a laptop computer. The department can provide specifications.

Students must take classes in the sequence prescribed by the department and adhere to all prerequisites. Failure to comply can lengthen the number of semesters necessary for completion of degree requirements.

Internships provide not only experience but industry contacts, and are strongly recommended. They may be conducted primarily during the summer semester.

### Fashion design and merchandising courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to fashion design and merchandising ([FASH](#)) courses.

## Department of Graphic Design

Graphic design is a creative and analytical process that integrates art and technology to communicate ideas and information. The goal of the Department of Graphic Design at VCU is to educate students to become innovators and leaders in three related areas of professional practice: print design, sequential design and interaction design.

### Mission statement

The Department of Graphic Design encourages the exploration of diverse problem-solving methodologies, innovative investigations and creative research in all forms of communication. It is dedicated to excellence in teaching, scholarship, academic and creative research and professional practice. The Department of Graphic Design provides both an undergraduate and graduate education stressing creative and intellectual thinking; awareness of individual, social, cultural and communicative issues; the integration of new technology; and a concern for ethical implications and the natural environment. The program actively contributes to the university, local, state, national and international communities through its scholarly and creative activities, educational programs and service efforts.

### Administration

**TBA**

Department Chair  
[www.vcu.edu/arts/graphicdesign](http://www.vcu.edu/arts/graphicdesign)

### Graphic design courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to graphic design ([GDES](#)) courses

## Department of Interior Design

The Department of Interior Design is accredited by the Council for Interior Design Accreditation. The mission of the department is to provide an intellectually rigorous, studio-based experience grounded in the issues of interior architecture. The department develops in its students an enduring passion and curiosity for their

work, a determination to continually seek quality in their endeavors, an ability to reflect constructively upon their actions as individuals and a responsibility for their lifelong education. The department focuses students' professional activities while encouraging connections between these activities and the larger forum of ideas that enrich their culture and environment. The Bachelor of Fine Arts in Interior Design program prepares students for careers in interior design or entry into programs of advanced study.

The department also offers a Master of Fine Arts in Design with a concentration in interior environments with a first-professional track and a postprofessional track. These tracks seek to produce competent creative designers whose design solutions are based on human response in the contemporary environment. Mastery of design skills, development of productive habits, knowledge of resources and an awareness of interrelated disciplines equip the student with the tools and expertise necessary to pursue creative design positions.

The department relates with the professional interior design community through a variety of activities. The faculty invites featured speakers to share experiences, participate in the annual ASID EXPO, facilitate mentorships with professional designers and support student internships. An active student chapter of the American Society of Interior Designers provides additional enriching opportunities for student involvement.

The department offers limited accelerated undergraduate preparation for those individuals who lack full preparation. Assessment of the individual candidate's needs will determine the scope of the preparatory course work. This is an opportunity to gain the skills and design experiences required to qualify for admission to the graduate degree program.

The department has a very comprehensive Web site with extensive information about the program, interior design in general, faculty, student work and the department newsletter. In advance of scheduling a meeting for department advising or for application to the program, students should review the Web site at [www.pubinfo.vcu.edu/artweb/interiors/](http://www.pubinfo.vcu.edu/artweb/interiors/).

### Administration

**Sharran F. Parkinson**

Professor and Department Chair

[www.vcu.edu/arts/interiordesign](http://www.vcu.edu/arts/interiordesign)

### Interior design courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to interior design ([IDES](#)) courses.

## Department of Kinetic Imaging

**Pam Turner**

Associate Professor and Department Chair

[www.arts.vcu.edu/kineticimaging](http://www.arts.vcu.edu/kineticimaging)

The Department of Kinetic Imaging prepares students to use video, animation and sound for the purpose of art-making, self-expression and experimentation. The kinetic imaging programs are designed for students who want to study video art, sound design and experimental two-dimensional and three-dimensional animation. Emphasis is placed on artistic uses of the media.

The department offers an undergraduate curriculum leading to a Bachelor of Fine Arts in Kinetic Imaging as well as a graduate level program that results in a Master of Fine Arts in Fine Arts.

### Kinetic imaging courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to kinetic imaging ([KINE](#)) courses.

## Department of Music

The Department of Music is committed to the advancement of Western art music and jazz as academic disciplines, as fields of professional endeavor and as a viable presence in the community. Entrance and graduation requirements comply with the National Association of Schools of Music guidelines. The department offers degree programs at the baccalaureate and master's levels, and each of them are described in detail on individual program pages within the Bulletins Web site.

Participating in the VCU musical community means involvement in a musically rich environment of studio lessons, small classes, independent study and participation in performing organizations, as well as hearing outstanding professional performers in the classical and jazz traditions. On-campus master classes with major touring artists are an important addition to the regular instructional program. Student soloists also may appear with regional and university ensembles. Through the Mary Anne Rennolds Chamber Concerts and other events, the department is one of the region's major sponsors of music performances.

Approximately 330 students choose to major in music, with many other students from throughout the university taking courses and participating in ensembles. There are 20 full-time faculty, more than half of whom hold doctorates, in addition to 45 part-time instructors. Among the faculty are internationally recognized performers, composers, researchers and teachers — musician-educators who are active in all facets of the professional music world. The faculty includes members and regular performers with ensembles that include the Richmond and Virginia Symphonies, the New York Philharmonic, the Virginia Opera, Rhythm and Brass, the Great American Music Ensemble and National Chamber Players. The faculty maintains a high level of recognition through each individual's publications, recordings, international performances and lectures.

The department is housed in two buildings. The principal facility is the W.E. Singleton Center for the Performing Arts, which includes the 502-seat Sonia Vlahcevic Concert Hall, faculty offices, rehearsal rooms and special studios for organ, percussion and piano. The James W. Black Music Center has a 347-seat recital hall, classrooms, practice rooms, rehearsal spaces, faculty offices and studios.

## Administration

### Darryl Harper

Associate Professor and Interim Department Chair

(804) 828-1166

[www.vcu.edu/arts/music](http://www.vcu.edu/arts/music)

## Music courses

Upper-division undergraduate students may enroll for selected 500-level graduate courses with permission of the department chair and instructor. Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level. Unless otherwise indicated, courses must be taken in numerical sequence.

The Department of Music offers courses in the following areas:

Use this link to see applied music (APPM) courses.

Use this link to see music composition (MUSC) courses.

Use this link to see music education (MUED) courses.

Use this link to see music history, literature and theory (MHIS) courses

### Music, Master of (M.M.)

#### Admission requirements summary

Music, Master of (M.M.)			
Applications/admissions in Performance and Composition are suspended until further notice.			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.M.	Summer only	Apr 1	
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Department of Music offers the Master of Music degree with a track in music education. Selection is made on the basis of prior academic performance reflected

in undergraduate (and prior graduate) transcripts, an audition or interview, and a writing sample. The applicant should have completed the appropriate undergraduate program (a bachelor's degree in music education with certification) or the equivalent for admission as a graduate student.

Prospective music education majors should submit a vita/resume, which includes education, background, teaching experience, honors and awards, publications, and any other important information. Applicants also should submit a writing sample on their "Personal Philosophy of Music Education." An interview will be scheduled with the music education faculty prior to admission.

Music education students have the option of a thesis or project. Specific information regarding the preparation of research documents and projects is available from the director of music education.

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

## Student learning outcomes

- Understand research in music education
- Understand current issues in music education
- Develop advanced pedagogical skills

## Curriculum

Master of music (music education)	credits
Music education cognate	12
MUED 600 Seminar in Music Education, three credits; MUED 610 Psychology of Music, three credits; MUED 620 Introduction to Research in Music Education, three credits; MUED 783 Project, three credits	
Music pedagogy cognate	12
To be determined by student and adviser, with adviser approval. Must include MUED 604, 606, 608 or MUED 614, 616, 618; and may include MUSC 611, 612, 690 and other graduate-level MUSC, MHIS, APPM, MUED courses	
Professional education cognate	6
A focus on areas of education of interest to student — to be determined by student and adviser, with adviser approval. May include EDUS 605, 607, 662, 673, 701; ADMS 600, 606, 611; ADLT 631; and other School of Education graduate-level offerings	

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## Department of Painting and Printmaking

The Department of Painting and Printmaking offers an undergraduate program that earns a Bachelor of Fine Arts in Painting and Printmaking, as well as a graduate program of study that leads to the Master of Fine Arts in Fine Arts. Students admitted to the programs are expected to have a high level of competence in either painting or printmaking. The graduate program is designed to encourage the development of professional attitudes and skills, with an emphasis on individual investigation.

The department is housed in the new Fine Arts Building with 15 individual graduate studios plus a large graduate printmaking area in addition four state-of-the-art undergraduate printmaking studios: etching, lithography, screenprinting and digital. These new facilities provide an excellent physical environment for the programs with easy access to the other fine art areas of sculpture and crafts. Established in 1928, the Department of Painting and Printmaking was the first department in what has become the School of the Arts. For nearly 70 years, the department has made significant contributions to the development of the School of the Arts' reputation as one of the premier art schools in the country.

The department supports an active and ambitious program of visiting artists and lecturers. Leading figures in the world of contemporary art visit to discuss their work, critique, visit studios, conduct workshops and meet with students throughout the year.

The Master of Fine Arts degree is the terminal degree in the studio areas of fine arts and is a requirement for most college and university teaching positions. Many graduate students have gained teaching experience in the department as part of their assistantship responsibilities, teaching classes in painting, drawing and printmaking. The department assists graduate students financially through a variety of teaching assistantships, graduate assistantships and scholarships.

## Administration

**Holly Morrison**

Associate Professor and Department Chair

[www.vcu.edu/arts](http://www.vcu.edu/arts)

## Painting and printmaking courses

The following graduate courses may be taken by undergraduates for degree credit: PAPR 525, 527 and 528. Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level. Unless otherwise indicated, courses must be taken in numerical sequence.

Follow this link to painting and printmaking ([PAPR](#)) courses.

## Department of Photography and Film

The Department of Photography and Film seeks to advance the highest standards of the media of photography and filmmaking by encouraging the creative and professional growth of both its students and faculty. The goal is to provide a forum for the development and exchange of visual ideas and to encourage its members to translate these ideas with a high degree of sensitivity and proficiency. The department fosters a pluralistic approach that allows both faculty and students to expand the traditional boundaries of the respective media, explore a broad range of conceptual orientations and engage in multidisciplinary practice.

The department offers undergraduate concentrations in photography and filmmaking resulting in a [Bachelor of Fine Arts in Photography and Film](#), as well as a graduate program that leads to a [Master of Fine Arts in Fine Arts with a concentration in photography and film](#).

To promote student development and research of contemporary art practice and theory, the Department of Photography and Film presents a diverse and active visiting artist program. Through lectures, critiques and research courses, students are exposed to the valuable insights of respected international artists, scholars and critics. In addition, the visiting artists teach topics courses exploring the current artistic and conceptual foundations found in their own work. Graduate students are encouraged to establish an individual critical dialogue with the visiting artists and faculty and attain a strong critical and historical basis for their work.

The facilities include several critique and screening rooms; a large black-and-white darkroom; a large state-of-the-art digital photography and film editing lab; a shooting studio; a student checkout center with a wide range of still photography and film cameras, professional lights and sound recording equipment; a professionally staffed graphics lab located in the same building that provides student with digital services on several high-tech imaging devices; and two large graduate workrooms.

## Administration

**John N. Heroy**

Associate Professor and Interim Department Chair

[www.vcu.edu/arts/photo](http://www.vcu.edu/arts/photo)

## Photography and film courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to photography and film ([PHTO](#)) courses.

## Department of Sculpture and Extended Media

The Department of Sculpture and Extended Media's eight full-time faculty members and various part-time and technical faculty represent a spectrum of

directions and philosophical attitudes. Faculty interests range from formal to conceptual, from the concrete to the evanescent. This breadth of interests is presented to students and contributes to the comprehensive nature of our department. Students are not only exposed to traditional sculpture media, but encouraged to explore technology's parameters and to pursue interdisciplinary activity.

We encourage sculpture students to broaden their experience in other areas. By promoting a curriculum that encourages students to take a wide range of courses throughout the university, we stress links between art, science, the humanities and the world. As a consequence, sculpture students have rich, productive associations with professors in many fields.

Sculpture students are challenged to exploit their full potential by questioning notions of contemporary art. Our goal is to provide students with the vocabulary, the seeds of discernment and the skills of both analysis and synthesis in order to become participants in the dialogue of our time. All of this takes place in an environment of high expectation regarding self-motivation, intellectual capacity and responsibility.

The sculpture program is housed in a state-of-the-art facility. Sculpture majors are provided with semi-private, locked studio spaces and are given time, support and encouragement to pursue their independently determined goals.

## Administration

**Amy Hauft**

Professor and Department Chair

[sculpture@vcu.edu](mailto:sculpture@vcu.edu)

[www.vcu.edu/arts/sculpture](http://www.vcu.edu/arts/sculpture)

## Sculpture and extended media courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to sculpture and extended media ([SCPT](#)) courses.

## Department of Theatre

The mission of the Department of Theatre is to educate and train students as theatre professionals and/or academicians in the field of performance, design/technology or theatre pedagogy.

In fulfilling its mission, the Department of Theatre provides students with the professional and cultural foundations essential for achieving the highest standards of the art. The department offers three degrees — a Bachelor of Arts, a Bachelor of Fine Arts and a Master of Fine Arts — to which applicants are admitted based on demonstration of ability, genuine interest determined during an interview, and audition and/or portfolio presentation.

In addition to introductory theatre and acting courses for non-majors, the department also serves students throughout the university with offerings in speech communication.

The Department of Theatre employs 23 faculty and staff and enrolls 230 undergraduate and 40 to 50 full-time graduate students. Theatre VCU produces four mainstage productions and numerous graduate and undergraduate directing projects each year.

## Administration

**David Leong**

Professor and Department Chair

[www.vcu.edu/arts/theatre](http://www.vcu.edu/arts/theatre)

**Aaron Anderson**

Assistant Chair and Director of Undergraduate Studies

## Theatre courses

With permission of instructor, the following graduate courses may be taken by undergraduates for degree credit: THEA 501-502, THEA 505-506, THEA 508 and THEA 513-514. Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/](http://www.pubapps.vcu.edu/)



vcucourses. You may search by unit, subject or keyword, as well as by degree level. Unless otherwise indicated, courses must be taken in numerical sequence.

The Department of Theatre offers courses in the following areas:

Use this link to see theatre (THEA) courses.

Use this link to see theatre laboratory (THEZ) courses.

Use this link to see speech (SPCH) courses.

## Theatre, Master of Fine Arts (M.F.A.)

### Admission requirements summary

Theatre, Master of Fine Arts (M.F.A.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.F.A.	Fall only for costume and scene design  Any semester for theatre pedagogy	May 1 for fall	
Special requirements: Please see <a href="http://www.vcu.edu/arts/prospective_students/graduate_studies">www.vcu.edu/arts/prospective_students/graduate_studies</a> for details on the application process.			

The Department of Theatre offers intensive Master of Fine Arts degree programs in two tracks, the professional theatre degree track and the theatre pedagogy degree track. The professional degree program is offered in the areas of scenic design and costume design, to prepare designers for careers in regional repertory theatre and commercial production companies. The M.F.A. in Theatre Pedagogy Program is individually tailored to prepare the student to enter the field of teaching at the university or college level. Areas of concentration can be chosen from acting, directing, scene design, costume design, voice and speech, movement and choreography, and dramatic literature and dramaturgy.

The Master of Fine Arts program is based on the philosophy that the nature of theatre requires the creative collaboration of all theatre artists working together. All share the responsibility of solving problems related to planning, preparation and realization of productions.

For general department information, visit [www.vcu.edu/arts/areas\\_of\\_study/graduate\\_programs.html](http://www.vcu.edu/arts/areas_of_study/graduate_programs.html).

### Student learning outcomes

The M.F.A. degree prepares students to enter either the professional field of design, or to teach at the college or university level. Students will demonstrate theoretical and practical knowledge in their areas of focus, as well as in the core courses in history, literature and theory; and in teaching performance or production. They will be evaluated on their ability to teach undergraduates, a final thesis project, and approval of a professional-quality design, presentation or publishable article.

## Admission requirements

In addition to the School of the Arts admission requirements, applicants in theatre must have completed a minimum of 30 semester hour credits in theatre at the undergraduate level. Professional experience will be considered.

Applicants are admitted only upon satisfactory demonstration of ability and genuine interest through audition or portfolio presentation, interview, evidence of scholarly writing (essay or research paper) and a minimum 3.0 GPA. The demands of the program are stringent; and only those students who are willing to commit themselves to the work assigned and who are capable of observing strict professional discipline should apply.

An audition or presentation of portfolio is required in addition to a personal interview that the applicant must arrange with the Department of Theatre's graduate studies adviser.

### Special admissions requirements – professional track

#### Design

Applicants in costume and stage design must present upon entrance at least six credit hours of undergraduate performance course credit or the equivalent in professional experience.

### Special admissions requirements – theatre pedagogy track

Applicants in theatre pedagogy must present upon entrance at least three credit hours of undergraduate design or technical theatre or the equivalent in professional experience.

Deficiencies in any of these special admissions requirements may be satisfied at VCU, but no graduate credit will be given for them. These prerequisites must be satisfied before the student may apply for candidacy.

## Candidacy

After the completion of 15 and before the completion of 24 semester hours, or one full academic year, whichever comes first, the student seeking an advanced degree from the Department of Theatre must apply for candidacy. In addition to maintaining a minimum 3.0 GPA, prior to applying for candidacy, candidates for the professional degree focus options in acting must have completed two roles, at least one with a faculty director (this requirement may be completed in part by the acting practicum required during the first year of matriculation); in directing must have completed one directing assignment (which may be an assistant to the director assignment and which may be accomplished in the directing practicum required during the first year of matriculation); in scene design must have served in a design position of substantial authority for at least one production (which may be accomplished in the scene design practicum during the first year of matriculation); in costume design must have completed two costume design classes and served in a position of designated authority (which position may be accomplished in the costume design practicum during the first year of matriculation). Candidates for the theatre pedagogy degree must have completed one assignment as well as completed the theatre pedagogy practicum in classroom observations.

In addition to the requirements listed previously for the various area specialties, the process of evaluation for advancement to candidacy may require the presentation of a portfolio and/or audition; written, oral and/or practical testing; and other devices deemed by the Department of Theatre to be serviceable measurements to determine the prospective success of the candidate at the advanced level in the program. Each candidate for the Master of Fine Arts in Theatre may stand for evaluation for admission to candidacy a second time if the initial evaluation for candidacy is unsuccessful. If after the second evaluation the student is denied candidacy, he or she is obliged to withdraw from the program. In special circumstances where unusual strength in another area is evidenced and when the student is acceptable to the graduate faculty, the student may be invited to transfer into another degree option. The completion of 18 semester hours is the latest point at which a student may transfer into another degree option without lost credits.

## Core degree requirements

Candidates in all degree track options for the M.F.A. in Theatre must satisfy the following core requirements:

	credits
THEA 509, 510, 603, 604	12
Two courses from the following:	6
THEA 623, 624 (selected topics in dramatic literature) and THEA 791 (Seminar)*	
Creative project/thesis	6

\* Seminar subjects may include dramaturgy, African-American theatre, women's theatre, history of Shakespearean production, Asian theatre practice, political theatre, research/performance or other topics.

## Professional theatre track

**Professional studio: Costume design** 60

To be repeated six times for a total of 60 credits

Program includes:

Costume design  
Costume history  
Rendering



Computer drafting  
Scene design  
Scene painting  
Practica

**Professional studio: Scene design**

60

To be repeated six times for a total of 60 credits

Program includes:

Stage design  
Scene painting  
Costume design or lighting design  
Directing  
Computer drafting  
History of interior design and architecture  
Practica  
Professional internships  
Core  
Project and project evaluation

**Theatre pedagogy track****Theatre pedagogy**

60

Program includes:

Directing, acting, voice, dramatic literature/dramaturgy or physical acting	9-12 credits
Electives, including design	12 credits
Core (includes theatre pedagogy)	21 credits
Internship or teaching practicum	12 credits
Creative project/thesis	3-6 credits

Theatre pedagogy candidates select a major area specialty, present a minor area and participate in practicum situations both in the department and with community theatre companies.

**School of the Arts in Qatar**

P.O. Box 8095  
Doha, Qatar  
(+974) 492 7200  
Fax: (+974) 480 5432  
[www.qatar.vcu.edu](http://www.qatar.vcu.edu)

Funded by the Qatar Foundation for Education, Science and Community Development

**Allyson Vanstone**

Professor of Graphic Design and Dean

**William McGee**

Chief Administration Officer

**Valerie Jeremijenko**

Assistant Dean for Student Affairs

Founded in 1998 as a collaboration between the Qatar Foundation for Education, Science and Community Development and Virginia Commonwealth University School of the Arts, the School of the Arts in Qatar offers the baccalaureate degrees in art history, fashion design, graphic design, interior design, and painting and printmaking. Its purpose is to provide special educational opportunities preparing graduates for leadership roles in the design professions. Courses emulate those offered on VCU's Monroe Park Campus. Graduates are prepared for exciting careers in these growing fields.

VCU School of the Arts obtained the appropriate approvals from the VCU Board of Visitors and the State Council of Higher Education for Virginia and admitted the first class to what would become VCU School of the Arts in Qatar in fall 1998. The State Council of Higher Education for Virginia approved the request in April 2001 and forwarded its recommendation to the Governor and General Assembly. The 2002 General Assembly adopted legislation authorizing VCU to establish a campus in Qatar.

## Admission

Admission policies for VCU School of the Arts in Qatar are the same as those in effect for VCU School of the Arts in Richmond with minor exceptions that recognize the culture and heritage of applicants from the Gulf region. Applications must include the following requirements:

1. The Qatari General Secondary Education Certificate or equivalent certificate from an accredited high school. Students applying from the British system must submit the results of their GCSE.
2. A working knowledge of English. Official Test of English as a Foreign Language scores are to be submitted with the application. Students whose TOEFL scores do not qualify them for admission are recommended to an academic bridge program (see below).
3. The VCU International Application for Admission.
4. The art and design portfolio (either in photographic slide portfolio or electronic format) or drawing and design portfolio. See admission guidelines for programs requiring specialized supplementary information in the "Admission to the University" section of this bulletin.
5. The application fee.

The high school certificate (or college transcript), official TOEFL score, the completed application form and the portfolio are all required in order to be considered for admission. These and all other application materials become the confidential property of VCU School of the Arts in Qatar.

Admission to the School of the Arts in Qatar is granted on a competitive basis. A score of 500 or higher on the TOEFL exam is required for admission.

Conditional acceptance is offered to students who do not present a TOEFL score of 500 based on an exceptional high school record and portfolio. Conditional students must repeat the TOEFL during the foundation year, score a minimum of 500 and earn passing grades in order to proceed to the second year.

**Evaluation of transcripts**

Applicants applying for transfer credit from a postsecondary institution will have their transcripts reviewed for possible acceptance of transfer credits. Faculty and administrative committees determine placement in all upper level courses after evaluating the student's record and portfolio of course work.

**Mathematics placement test**

All incoming students are required to take the mathematics placement test.

**Internships**

Students of the VCU School of the Arts in Qatar are required to complete internship course work for which university credit is offered. These placements are under the supervision of faculty members within the major.

**Academic requirements**

All degree programs in the School of the Arts in Qatar stipulate a minimum GPA requirement in the major concentration of at least 2.0.

**Courses**

Course descriptions of classes offered at the School of the Arts in Qatar may be found in the VCU Courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses); you may search by academic unit, subject area or keyword.

## Degree programs

Baccalaureate programs within the School of the Arts in Qatar prepare students for careers in the following departments:

- [Art history](#)
- [Fashion design](#)
- [Graphic design](#)
- [Interior design](#)
- [Painting and printmaking](#)

The School of the Arts in Qatar offers a design studies track within the Master of Fine Arts in Design program. [See additional details in this Bulletin](#) or contact the School of the Arts in Qatar for more information.



**VCU**

**Make it real.**

## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Business**

Virginia Commonwealth University's School of Business can be traced back to 1917 when a board of private citizens organized the Richmond School of Social Economy for Social Workers and Public Health Nurses. By 1937 the school was called the Richmond Professional Institute, was affiliated with The College of William and Mary, and had added business courses to the curriculum. The school began offering a graduate program in 1962. Since then, the program has continued to develop and mature to meet the needs of the future.

## Vision

The vision of the VCU School of Business is to be nationally recognized as the leading technologically focused school of business in the commonwealth of Virginia.

## Mission

The mission of the VCU School of Business is to prepare students for successful careers and lifelong learning by providing management education firmly grounded in technology, interdisciplinary teamwork and global perspectives. Essential to achieving this mission is striving to excel in teaching and scholarly research, and to build effective, value-based relationships with the external community.

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## Administration

301 West Franklin Street  
P.O. Box 844000  
Richmond, Virginia 23284-4000  
(804) 828-1595  
Fax (804) 828-8884  
[www.business.vcu.edu](http://www.business.vcu.edu)

### Ed Grier

Dean

### David J. Urban

Executive Associate Dean

### José Dulá

Interim Associate Dean for Research and Doctoral Studies

### Shannon K. Mitchell

Associate Dean for Undergraduate Studies

### Jana P. McQuaid

Assistant Dean for Master's Program

### William J. Miller

Executive Director, Fast Track Executive M.B.A. Program

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## Accreditation

The School of Business is accredited by the Association to Advance Collegiate Schools of Business, which accredits programs of professional education in business at the collegiate level. AACSB International accreditation represents the highest standard of achievement for business schools, worldwide. Institutions that earn accreditation confirm their commitment to quality and continuous improvement through a rigorous and comprehensive peer review. AACSB International accreditation is the hallmark of excellence in management education.

The School of Business is the first school of business in the nation to gain accreditation from the Accreditation Board for Engineering and Technology (ABET) for its undergraduate program in information systems.

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## Financial aid, scholarships and awards

### Scholarships and awards

In addition to university scholarships, business students may apply and compete for scholarships awarded through School of Business endowed scholarship funds or through the various School of Business academic programs. For detailed information on scholarships and awards, visit the School of Business Web site.

### Cooperative Education and internships

Business students are eligible for the university's Cooperative Education Program. Qualified students placed with an employer will either alternate one semester of full-time study with one semester of full-time work or combine study with part-time work during the same semester. The School of Business also offers

internships, allowing advanced students to pursue part-time work assignments with area employers.

## Assistantships

The School of Business offers a limited number of graduate assistantships to full-time students for the academic year. For further information, write to the Graduate Studies in Business Office.

Graduate students also are eligible for funds administered under the National Defense Loan and college work-study programs. For further information, write to Director of Financial Aid, Virginia Commonwealth University, Richmond, VA 23284-2526.

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## Graduate information

### Graduate programs

The School of Business offers degree programs leading to the [Master of Arts in Economics](#), [Master of Accountancy](#), [Master of Business Administration](#), [Master of Business Administration/Master of Science in Information Systems](#), [Master of Science in Business](#), [Master of Science in Information Systems](#), [Master of Taxation](#), and the [Ph.D. in Business](#) and [Pharm.D./M.B.A.](#)

### Graduate policies

#### Enrollment in graduate courses

Students may not enroll in any graduate business courses (except MGMT 500) for credit without first being admitted formally to a graduate degree or graduate certificate program.

Exceptions may be granted by the director of graduate studies in business to students with superior academic records. No credit will be given for graduate classes taken prior to acceptance into a graduate degree program in business or economics unless such an exception has been granted. A form to request such an exception is available from the Graduate Studies in Business Office.

A "graduate transient" classification may be granted to a student in good standing in any graduate school accredited by the Association to Advance Collegiate Schools of Business (AACSB) who desires to enroll in the School of Business for any one semester or summer session. Students will be required to present certificates of graduate standing but will not have to submit the data normally required for an admission decision. A form is available from the Graduate Studies in Business Office to facilitate transient enrollment.

#### Transfer credit

A maximum of six semester hours of acceptable graduate credit earned in a degree program at an AACSB-accredited institution may be transferred and applied toward the graduate degree. Acceptance of transfer credit is made at the discretion of the director of graduate studies in business.

All transfer work must be at the A or B grade level. Students must be in good standing both at VCU and at the institution from which the credits were earned. Additionally, students must have had full admission during the time these credits were earned at that college or university. Transfer credit shall not be older than seven years at the time the degree is awarded.

Credit to be earned at other institutions after acceptance in the graduate program must be approved in advance, and approval is granted at the discretion of the director of graduate studies in business. Such work is approved only under unusual circumstances such as job transfers or other extenuating circumstances.

### Advising program

All students admitted to graduate programs are assigned advisers. Students are expected to work with their advisers to plan their graduate programs. Each student is required to complete an approved program form and file it with the Graduate Studies in Business Office no later than the end of the first semester in which the student is admitted. The curriculum plan described on the form must be approved by both the adviser and the director of graduate studies in business. Courses taken without approval are taken at the student's own risk.

Students are responsible for knowing and fulfilling all general and specific requirements relating to the completion of their degree programs. Answers to specific questions may be obtained from the Graduate Studies in Business Office, (804) 828-4622.

## Change in program or concentrations

Students who wish to change their graduate programs or areas of concentration within the school must make that request in writing to the director of graduate studies in business. The director will advise them of the necessary requirements and whether the change is possible. The student must be in good standing at the time of change.

## Notification

The student should notify in writing both Records and Registration and Graduate Studies in Business, 301 W. Franklin St., P.O. Box 844000, Richmond, VA 23284-4000, of any address changes. Students who do not wish to register in any given semester must notify in writing the Graduate Studies in Business Office of their intent not to register and their plans for continuation in the program.

## Student appeals

Appeals for exceptions to policies or academic standards may be made in writing to the Graduate Studies in Business Office, School of Business, Virginia Commonwealth University, 301 W. Franklin St., Richmond, VA 23284-4000.

## Individual research projects

Various opportunities exist for students to work closely with faculty on individual research projects. Courses in the School of Business numbered 690, 693 and 697 are suitable for this purpose. No more than one research course may be taken as part of a master's program.

Registration in all research courses requires approval of both the student's adviser and the director of graduate studies in business. Forms for this purpose are available upon request from the Graduate Studies in Business Office. Students are expected to seek permission to register in research courses by the end of the semester or summer session preceding the semester or summer session for which registration is desired. The written research report is required to be filed at the Graduate Studies in Business Office no later than the last day of classes of the semester or summer session in which the course is taken.

## General requirements for master's degrees

In addition to the general academic regulations stated in the Graduate Studies at VCU chapter of this bulletin and the regulations listed earlier in this section, master's students in the School of Business are subject to the following requirements:

1. A course for which a passing grade was received cannot be repeated without prior written permission of the director of graduate programs in business. An appeal to the School of Business Master's Committee is required.
2. Students who satisfy all requirements except the 3.0 average may be allowed to take a maximum of six additional credit hours to raise the average. Students are required to appeal to the School of Business Master's Committee for permission.
3. A foundation course may be waived by the director of graduate studies in business, based on satisfactory completion of equivalent undergraduate work prior to acceptance in the program. CLEP credit at the "B" or higher level may be accepted in lieu of foundation courses with permission. The waiver of courses is at the discretion of the School of Business.
4. A maximum of two one-year extensions may be granted by the director of graduate studies in business in the time allowed to complete a degree if satisfactory progress has been demonstrated on the part of the student requesting an extension. For extensions, write to the director of graduate programs in business.
5. Students are not permitted to take undergraduate courses equivalent to foundation courses once they are admitted to the graduate program without the written permission of the director of graduate studies in business.
6. Grades received for undergraduate courses are not included in the calculation of the cumulative graduate GPA.
7. All students admitted into a program must have earned a bachelor's degree or its equivalent. To be accepted in the graduate program, in addition to other requirements, applicants must be in good standing at the college or university they previously attended.

## School of Business courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The School of Business offers courses in the following areas:

Use this link to see accounting ([ACCT](#)) courses.

Use this link to see e-business ([EBUS](#)) courses.

Use this link to see economics ([ECON](#)) courses.

Use this link to see finance, insurance and real estate ([FIRE](#)) courses.

Use this link to see fast-track M.B.A. ([FMBA](#)) courses.

Use this link to see information systems ([INFO](#)) courses.

Use this link to see information technology systems ([ISTM](#)) courses.

Use this link to see management ([MGMT](#)) courses.

Use this link to see marketing ([MKTG](#)) courses.

## Accountancy, Master of (M.Acc.)

### Admission requirements summary

Accountancy, Master of (M.Acc.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Acc.	Fall Spring Summer	Jul 1 Nov 1 Apr 1	GMAT

The purpose of the Master of Accountancy program is to provide the skills and knowledge necessary to be future leaders in the professional business community and the public sector for students who wish to specialize in the areas of accounting/information systems, auditing financial reporting and accounting/other fields of business.

## Student learning outcomes

- Students are expected to demonstrate current knowledge of financial accounting standards, tax laws and regulations, and other professional guidance that affects the profession. In addition, students should be aware of proposed changes to tax laws and regulations, financial accounting standards and other professional guidance.
- Students are expected to demonstrate the ability to effectively communicate accounting information in writing and in oral presentations.
- Students are expected to demonstrate the ability to effectively analyze comprehensive cases, comprehensive problems and other projects that require in-depth accounting knowledge. The analysis should include a brief statement of the issue, facts bearing on the issue, appropriate professional guidance and a proposed solution to the issue.
- Students are expected to demonstrate the ability to apply accounting knowledge in a variety of contexts and circumstances.
- Students must be able to demonstrate their ability to apply ethical principles in a variety of accounting contexts and circumstances.

## Program for students with a bachelor's degree in accounting

Students who have completed a bachelor's degree in the field of accounting from an accredited institution may be admitted directly to the Master of Accountancy program. This degree requires completion of 10 graduate courses (30 credit hours) of which at least five (15 credit hours) must be graduate-level accounting courses. Students applying directly to the Master of Accountancy program may be admitted based on the cumulative grade-point average obtained in the last 60 credits of undergraduate course work, plus satisfactory performance on the GMAT.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

### Program requirements

#### Department of Accounting prerequisite:

ACCT 513 Financial Reporting

If the student has not completed the course above or the equivalent, they can be counted toward the master's degree. **However, this must be approved in advance by the program adviser.**

#### Graduate accounting required core courses

Of the 10 graduate-level courses (30 credit hours) required for the degree, at least five (15 credit hours) must be graduate-level accounting courses. ACCT 513 may count toward this requirement if the student has not previously completed equivalent courses. The program adviser will determine if equivalent courses have been taken at the undergraduate level. No other 500-level courses may be counted toward the Master of Accountancy degree.

#### Additional graduate courses

All master's students must complete five additional (15 credit hours) 600-level courses from the School of Business offerings. These can be in accounting or other business areas.

#### Graduate accounting course offerings

ACCT 513 is offered in both fall and spring semesters. The following 600-level accounting courses are generally offered once each school year.

ACCT 601 Financial Accounting Theory

ACCT 604 Auditing

ACCT 606 International Accounting

ACCT 610 Forensic Accounting

ACCT 662 Advanced Topics in Accounting Information Systems

ACCT 682 Corporate Taxation

### Program for students with a bachelor's degree in fields other than accounting

Students who have completed a bachelor's degree in a field of study other than accounting from an accredited institution may be admitted directly to the Master of Accountancy program. The graduate degree requires completion of 10 graduate courses (30 credit hours) of which at least five (15 credit hours) must be graduate-level accounting courses. Students applying directly to the Master of Accountancy program may be admitted based on the cumulative grade-point average obtained in the last 60 credits of undergraduate course work, plus satisfactory performance on the GMAT.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

#### Program requirements

##### School of Business core requirements

Candidates must complete at least eight non-accounting business courses from the following list. (Equivalent 500-level courses may be substituted.)

ACCT 481 Law for Accountants I (treated as a non-accounting course)

ECON 303 Managerial Economics

FIRE 311 Financial Management

INFO 360 Business Information Systems

MGMT 301 Business Statistics

MGMT 319 Organizational Behavior

MGMT 320 Production/Operations Management

MGMT 325 Organizational Communication

MGMT 434 Strategic Management

MKTG 301 Introduction to Marketing

#### Department of Accounting prerequisites (up to 21 semester credits)

ACCT 203-204 Introduction to Accounting I-II or ACCT 205

Introductory Accounting Survey

ACCT 303 Intermediate Accounting I

ACCT 304 Intermediate Accounting II

ACCT 306 Cost Accounting

ACCT 405 Tax Accounting Principles

ACCT 406 Auditing

ACCT 513 Advanced Accounting

#### Graduate accounting required courses

All master's students must complete at least five master's-level accounting courses. This includes ACCT 513 Financial Reporting. No other 500-level courses can be counted toward the degree.

#### Additional graduate courses

All master's students must complete five additional 600-level courses from the School of Business offerings. These can be in accounting or other business areas.

#### Graduate accounting course offerings

ACCT 513 is offered in both fall and spring semesters. The following 600-level accounting courses are generally offered once each school year.

ACCT 601 Financial Accounting Theory

ACCT 604 Auditing

ACCT 606 International Accounting

ACCT 610 Forensic Accounting

ACCT 662 Advanced Topics in Accounting Information Systems

ACCT 682 Corporate Taxation

### Business Administration, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

##### Business Administration, Certificate in (Post-baccalaureate graduate certificate)

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Jul 15	
	Spring	Nov 15	
	Summer	Mar 15	

The Post-baccalaureate Certificate in Business Administration is designed for professionals with little or no prior business course work who seek an opportunity for advanced study in core business function areas. The certificate provides students the ability to advance their careers while receiving recognition for academic accomplishment in the form of a graduate certificate. By completing the curriculum for the certificate, students will have satisfied the foundation course requirements in the M.B.A. and other master's programs in business.

#### Student learning outcomes

- To apply communication skills in new and unfamiliar circumstances in a form that can be readily communicated to entry-level, midlevel, and senior-level managers
- To analyze the ethical dimensions of a business situation, to relate those dimensions to professional ethical standards, and to formulate and defend possible resolutions from the perspective of entry-level managers
- To select, conceptualize, and apply appropriate quantitative techniques or approaches in order to analyze business problems for the purpose of decision-making by entry-level managers



- To critically evaluate and use accounting and/or other financial information for the purpose of decision-making by entry-level managers

## Admissions criteria

Applicants must have earned a baccalaureate degree or its equivalent from an accredited college or university. This program is intended for students with an undergraduate degree in an area other than business management. Other admission requirements include a minimum undergraduate GPA of 2.7 in at least 60 hours of course work. Work experience is preferred. If students have not previously completed MGMT 500 Quantitative Foundation for Decision Making and INFO 360 Business Information Systems, or their equivalents, they are expected to complete these courses before completion of the certificate requirements.

## Certificate requirements

In order to be eligible to receive the certificate, a student must maintain an overall GPA of 3.0. Completion of this graduate certificate program requires 21 credit hours beyond the bachelor's degree. The director of graduate studies in the School of Business may waive up to 12 credit hours based upon equivalent course work completed in the past five years with a grade of B or better. Successful completion of the graduate certificate program does not guarantee admission to a master's-level program. Students interested in applying at a later date to either the M.B.A. or other master's programs must do so through a separate application process.

## Curriculum

	credits
<b>Co-requisites:</b>	
MGMT 500 Quantitative Foundation for Decision Making	3
INFO 360 Business Information Systems	3
<b>Required courses</b>	
ACCT 507 Fundamentals of Accounting	3
ECON 500 Concepts in Economics	3
FIRE 520 Financial Concepts of Management	3
MGMT 524 Statistical Elements of Quantitative Management	3
MGMT 530 Fundamentals of the Legal Environment of Business	3
MGMT 540 Management Theory and Practice	3
MKTG 570 Concepts and Issues in Marketing	3
<b>Total</b>	<b>21</b>

## Business Administration, Master of (M.B.A.)

### Admission requirements summary

Business Administration, Master of (M.B.A.)			
Indicate specialization: without concentration or with concentration			
For M.B.A. with a concentration, indicate track: business analytics, corporate finance, entrepreneurship and innovation, global business, health care management, human capital, information resources management, investments, real estate, or supply chain management.			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.B.A.	Fall	Jul 1	GMAT
	Spring	Nov 1	
	Summer	Mar 1	

The purpose of the Master of Business Administration programs at VCU is to prepare individuals for the responsibilities of management. As students at VCU, individuals will learn the functions and techniques of effective management. The student also will come to understand the environmental and economic factors that affect decision making in organizations. In short, the student will know what to do as future events unfold that affect his/her firm or organization.

An M.B.A. from VCU benefits students at various points in their career. Individuals who have recently received their baccalaureate may choose to refine

their business skills while their undergraduate training is fresh. Individuals with work experience often find that an M.B.A. is the key to rapid promotion or a career change. Finally, an M.B.A. from VCU meets the needs of students who recognize that the best preparation for an uncertain future is continuous learning.

School of Business students have diverse interests, backgrounds and levels of business experience. Therefore, the school provides a choice of programs by which the students may obtain an M.B.A. The M.B.A. is designed for students who wish to attend school in the evening on either a full- or part-time basis. The dual M.B.A./M.S. Information Systems degree program allows students to pursue both degrees simultaneously. The Fast Track Executive M.B.A. program is designed for applicants with at least six years of business experience who are interested in attending class on the weekends. The Pharm.D./M.B.A. is designed for students who want to add business skills to their training as pharmacists.

### Student learning outcomes

Students should be able to demonstrate the capacity to apply business knowledge in new and unfamiliar circumstances.

- Students should be able to demonstrate the ability to work in teams and other groups.
- Students should understand and be able to develop the ethical and social responsibilities of organizations.
- Students should be able to describe the factors involved in key operation decisions and to appropriately apply techniques that provide insight and structure for management decision-making.
- Students should be able to identify and understand major issues faced by organizations with evolving information technology and investigate issues and challenges faced by managers with changes in information technology.
- Graduates of the program should be able to critically evaluate and use accounting and other information for managerial decision-making.
- Graduates should be able to evaluate marketing programs.
- Students should be able to think critically and systematically about financial issues in businesses and develop techniques to analyze these issues numerically.
- Graduates of the program should be able to develop an analytical framework for identifying the objectives of the firm and provide some tools for evaluating the firm's performance.

## The M.B.A. program

The curriculum for the M.B.A. program is flexible and is designed for students with diverse undergraduate backgrounds. Students may elect an M.B.A. without a concentration or may choose an M.B.A. with a single or double concentration. Concentrations are available in the following areas: business analytics, corporate finance, entrepreneurship and innovation, global business, health care management\*, human capital, information resources management, investments, real estate, and supply chain management.

Most classes are held in the evening to accommodate working students' schedules. Classes typically meet one evening a week from 7 to 9:40 p.m. or in the early evening from 5:30 to 6:45 p.m. For additional information about the program, visit [www.vcu.edu/mba](http://www.vcu.edu/mba).

\*The concentration in health care management is offered as a unique summer cohort weekend format. Students interested in this concentration should visit [www.vcu.edu/mba](http://www.vcu.edu/mba) for more detailed information.

### Admission criteria

Admission criteria include undergraduate performance, Graduate Management Admissions Test (GMAT) scores, intellectual capacity, experience and other indicators of the ability to pursue graduate study profitably. Deadlines are as follows:

Spring	Nov 1
Summer	Mar 1
Fall	Jul 1

### Requirements for the M.B.A.

- A course in calculus is a prerequisite for the M.B.A. This prerequisite may be waived for students who present satisfactory equivalent preparation.

Applicants who have not met this prerequisite may take the course after admission.

- Students are expected to enter the program with basic computing proficiency. Specific expectations will be provided by the Graduate Studies in Business Office. Specific means of evaluating and correcting any deficiency also will be identified.
- The program includes seven foundation courses. These courses may be waived for students who have taken the equivalent material at the undergraduate level within the past five years and received a minimum grade of B. After a student has been admitted, courses which have not been waived must be completed at the graduate level.

Foundation courses	credits
ACCT 507 Fundamentals of Accounting	3
ECON 500 Concepts in Economics	3
FIRE 520 Financial Concepts of Management	3
MGMT 524 Statistical Elements of Quantitative Management	3
MGMT 530 Fundamentals of the Legal Environment of Business	3
MGMT 540 Management Theory and Practice	3
MKTG 570 Concepts and Issues in Marketing	3
	<hr/> 21

#### Advanced courses

Each student must begin the advanced portion of the program with the courses below in each of the first two semesters. Full-time students will take additional courses from the remainder of the Advanced Program.

Semester one (to be taken at the same time)	
ECON 610 Managerial Economics	3
MGMT 641 Organizational Leadership and Project Team Management	3
Semester two:	
FIRE 623 Financial Management	3
Remainder of the Advanced Program	18
ACCT 608 Managerial Accounting	
INFO 661 Information Systems for Managers	
INFO 664 Information Systems for Business Intelligence	
MGMT 642 Business Policy (to be taken after completion of 15 credits of advanced program)	
MGMT 675 Operations Management	
MKTG 671 Marketing Management	
Electives*	9
Total credits in Advanced Program	<hr/> 36

\* Electives and concentrations

Electives from the School of Business must be 600-level courses and students must satisfy the necessary prerequisites. Courses at the 500- or 600-level taken outside of the School of Business may be used with the permission of the director of graduate studies in business. Students must satisfy the necessary prerequisites for all electives.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

### Executive Master of Business Administration (M.B.A.)

#### Admission requirements summary

Executive Master of Business Administration (M.B.A.)			
Indicate specialization: Executive M.B.A.			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.B.A.	Fall only	Feb 15 (for early decision)  Apr 22 (final decision)	GMAT

The Executive M.B.A. curriculum takes advantage of students' midlevel and executive professional experience by using it as a foundation on which to build a more sophisticated understanding of business. Core program components and differentiators include its integrated structure, experiential exercises and real-world application, which enable students to transition easily between the business world and their studies. The program's innovative, integrated modular structure enables students to approach issues by module topic, which accurately reflects the multidisciplinary demands of the real business world.

The program is targeted to rising business executives, entrepreneurs, nonprofit managers and service professionals. It differs from other master's programs at VCU because of its unique modular curriculum, which integrates components of communication, technology, service/quality, globalization and strategy.

The modules include:

1. Team-building and leadership
2. Business foundations
3. Analysis and decisions
4. Global challenges
5. Productivity and innovation
6. Organizational culture
7. Strategic management

The Executive M.B.A. program is a lockstep program that meets alternating weekends, Fridays from 12:30 to 6:15 p.m. and Saturdays from 8 a.m. to 2:15 p.m. The program can be completed in approximately 20 months.

#### Deadline dates

The Executive M.B.A. program offers a rolling admissions process, meaning completed applications are evaluated by the admissions committee as quickly as possible upon receipt. The admissions committee will review all completed applications received up until the associated deadline date. Interviews with the program director for qualified applicants will be scheduled after the committee application review and, typically, admissions decisions will be made within two to four weeks of this interview. We strongly recommend submitting a completed application as soon as possible. Completed applications received after the final admission deadline will be reviewed on a space-available basis.

For more information, contact the Executive M.B.A. office at (804) 828-3622 or visit the website at [www.emba.vcu.edu](http://www.emba.vcu.edu).

#### Program requirements

The program is designed for students with significant work experience. The student's adviser will review the student's educational and professional background to determine the extent to which the student has satisfied prerequisites. Those with outstanding prerequisites will be required to complete one or more online courses, included in the program tuition, to demonstrate competency.

The program consists of 13 courses that are divided into seven integrated modules.

Degree requirements	Credits
Module 1	
FMBA 601 Team Building and Leadership (course 1)	3
FMBA 602 Team Building and Leadership (course 2)	3
Module 2	
FMBA 603 Business Foundations (course 1)	3
Module 3	
FMBA 604 Analysis and Decisions (course 1)	3
FMBA 605 Analysis and Decisions (course 2)	3

FMBA 606 Analysis and Decisions (course 3)	3
Module 4	
FMBA 607 Global Challenges (course 1)	3
Module 5	
FMBA 609 Productivity and Innovation (course 1)	3
FMBA 610 Productivity and Innovation (course 2)	3
Module 6	
FMBA 608 Organizational Culture (course 1)	3
Module 7	
FMBA 611 Strategic Management (course 1)	3
FMBA 612 Strategic Management (course 2)	3
FMBA 613 Strategic Management (course 3)	3

**Total 39**

Students may also complete an optional 9 credit health care management concentration that will be offered in a cohort structure every summer between the first and second years of the Executive M.B.A. program. Class sessions for each course will meet over a three-day period, Thursday through Saturday. The concentration in health care management is designed for Executive M.B.A. students who want a deeper understanding of the unique issues that affect the health care industry. This initiative is offered in collaboration with the VCU School of Allied Health Professions' Department of Health Administration.

The program will explore the major influences in health care management from three different perspectives:

FMBA 613 Health Care Management I: National Perspective	3
FMBA 614 Health Care Management II: Employer's Perspective	3
FMBA 615 Health Care Management III: Industry Perspective	3

**Total 9**

### Combined Doctor of Pharmacy (Pharm.D.) and Master of Business Administration (M.B.A.)

The Pharm.D./M.B.A. program seeks to prepare pharmacists for careers that encompass pharmacy and business theories and principles. The program is designed to take advantage of efficiencies and electives in both the Pharm.D. and M.B.A. programs. Students in the combined program can earn both degrees and save as much as one year or more over the time required for enrolling in the programs separately.

Students may be admitted in the program during their first year of enrollment in the Pharm.D. program. Applicants must be an enrolled student in the Pharm.D. program, have demonstrated a good academic record and have successfully completed the Graduate Management Admission Test (GMAT).

To get both degrees, students will take all pharmacy courses unless waived, the seven business foundation courses, the nine M.B.A. core courses and three elective courses. The elective M.B.A. courses may be taken from pharmacy administration courses at the 600 level, and a combination of a business seminar course and an elective advanced pharmacy practice experience in pharmacy management. The business foundation courses can be taken during the first two years in the pharmacy program with summer session(s). The M.B.A. core courses can be taken during the third and fourth years in the pharmacy program. The business electives can be taken during the fourth and fifth years in the combined program.

Students interested in pursuing the Pharm.D./Master of Business Administration dual degree program must first obtain admission to the Pharm.D. program. Admitted Pharm.D. students who desire to add the M.B.A. degree to their program then must apply to the M.B.A. program. Upon admission to the M.B.A. program, a Pharm.D. student will be considered a dual-degree seeking student. Students generally will register for a mix of School of Business courses and School of Pharmacy courses in their fourth, fifth and sixth semesters of the pharmacy program.

Students categorized as a Pharm.D. student will be charged tuition and fees from the School of Pharmacy and will be eligible to received financial aid awards as Pharm.D. students. Student categorized as M.B.A. students will be charged tuition

and fee rates as a graduate student and be eligible to receive financial awards as a graduate student.

### Admission requirements

Students interested in pursuing the Pharm.D./M.B.A. dual degree program must first obtain admission to the Pharm.D. program. Admitted Pharm.D. students who desire to add the M.B.A. degree to their program must apply to the M.B.A. program using the Application for Graduate Study found at the Graduate School Web site: [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

A complete application to the M.B.A. program includes:

- Application for Graduate Study and application fee.
- Request for In-state Tuition Rates (as applicable).
- Three letters of reference, including a letter of support from the School of Pharmacy.
- Official transcripts from all universities previously attended, including current VCU transcript.
- Current GMAT test score.
- Interview with director of graduate programs in School of Business.

### Tuition and financial aid considerations

Upon admission to the M.B.A. program, a Pharm.D. student will be considered a dual degree-seeking student. Students will most often register for a mix of School of Business courses and School of Pharmacy courses each semester of the program. The School of Pharmacy and School of Business have agreed that dual degree-seeking students will be considered Pharm.D. students in years P1, P2, P3 and P5. Students will be considered M.B.A. (graduate) students in year P4. When categorized as Pharm.D., a student will be charged tuition and fees from the School of Pharmacy and will be eligible to receive financial aid awards as a Pharm.D. student. When categorized M.B.A. (graduate) a student will be charged the graduate tuition and fee rate of the Monroe Park Campus and will be eligible to receive financial aid awards as a graduate student.

### Curriculum requirements

To earn both degrees, students will complete the following requirements. For the Pharm.D. program, all required Pharm.D. prerequisite and required courses must be taken unless waived by the appropriate representative of the School of Pharmacy. For the M.B.A. program requirements, the foundation courses listed below must be taken. Courses may be waived for students who have taken the equivalent material at the undergraduate level.

ACCT 507 Fundamentals of Accounting  
 ECON 500 Concepts in Economics  
 FIRE 520 Financial Concepts of Management  
 MGMT 524 Statistical Elements of Quantitative Management  
 MGMT 530 Fundamentals of the Legal Environment of Business  
 MGMT 540 Management Theory and Practice  
 MKTG 570 Concepts and Issues in Marketing

The following nine courses of the M.B.A. Advanced Program will be required for each student:

**Semester one:** (to be taken at same time)

ECON 610 Managerial Economics  
 MGMT 641 Organization Leadership and Project Team Management

**Semester two:**

FIRE 623 Financial Management

**Remainder of the Advanced Program**

ACCT 608 Managerial Accounting

INFO 661 Information Systems for Managers

INFO 664 Information Systems for Business Intelligence

MGMT 642 Business Policy (to be taken after completion of 15 credits of advanced program)

MGMT 675 Operations Management

MKTG 671 Marketing Management

#### Electives

Three M.B.A. elective courses may be taken in the School of Business or by completing approved Pharm.D. electives and/or an applied pharmacy practice experience in pharmacy management, as individually approved by the director of graduate programs in the School of Business.

The key to successful completion of the Pharm.D./M.B.A. dual degree program will be timely and continuing advising from both the appropriate School of Pharmacy adviser and the director of graduate programs in the School of Business. For this reason, students are encouraged to seek admission to the dual degree program as early in their Pharm.D. program as possible.

### Combined Fast Track Master of Business Administration (M.B.A.) and Master of Science in Information Systems (M.S.) – information technology management

Students in the Fast Track M.B.A. program have the option to continue with the Fast Track Executive M.S. in Information Systems – Information Technology Management program after having completed the requirements for the Fast Track M.B.A. to earn both degrees. Students pursuing this dual degree option will have four courses in the Fast Track M.S. program waived (these four courses cover the information systems content of the Fast Track M.B.A. program).

### Combined Master of Business Administration (M.B.A.) and Master of Science in Information Systems (M.S.)

Students can earn both M.B.A. and M.S. in Information Systems degrees by having 12 credits counted toward both degrees, thus requiring only 54 credits total of advanced course work (not counting foundation courses), rather than the 36 and 30 credits normally required for the two degrees. Students in the combined degree program will follow the same schedule as regular M.B.A. students, including the two lockstep semesters. To get both degrees, students will take all foundation courses required for the M.B.A., unless waived, all nine core courses required for the M.B.A., and nine additional courses in the M.S. in Information Systems program, including INFO 610, INFO 620 and INFO 630. Students whose undergraduate degree is not in Information Systems may also be required to take additional undergraduate prerequisite courses before taking the graduate information systems courses, as determined by the program adviser. The INFO 661 course taken for the M.B.A. will substitute for INFO 640, normally required for the M.S. in Information Systems degree, and three of the additional information systems courses also will count toward the normally required three elective courses in the M.B.A. program.

One of the information systems courses must have substantial global, entrepreneurial and/or experiential components. The six information systems courses to be taken in addition to INFO 661, INFO 664, INFO 610, INFO 620 and INFO 630 must be approved by the program adviser, and would normally be selected to satisfy one of the M.S. in Information Systems tracks.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

### Dual degree: Master of Business Administration/Master of Education in Sport Leadership

The dual degree M.B.A./M.Ed. in Sport Leadership will prepare students for leadership positions by combining the business teaching of an M.B.A. program with sport industry-specific knowledge gained in the M.Ed. program. This degree combination recognizes the growing complexity of the sport industry and reinforces the Center for Sport Leadership's commitment to preparing students for the leadership challenges of the future. The dual degree offers students course work and knowledge they will need to be successful in a business setting

combined with the application and networking skills required in today's sport industry.

The M.B.A. phase of the program will encompass a problem-based learning style, immersing students in collaborative projects and working situations that are commonplace in the business world. Students will learn business concepts in a real-life context and develop skills in communication, collaboration and teamwork that are essential for success while developing their abilities to be creative, take initiative and accept personal responsibility for their actions.

The M.Ed. program will combine classroom and practical experience to prepare individuals for leadership positions in the sport industry. And interdisciplinary approach gives students the freedom to choose courses of personal interest and build a foundation of knowledge in their desired career fields.

Students may enter the program only in the fall semester and can complete both degrees with two years of study and will receive both degrees at the conclusion of the entire program.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

#### Suggested curriculum

##### Fall 1: 12 credits

ECON 610 Managerial Economics

MGMT 641 Organizational Leadership and Project Team Management

SPTL 603 Research Methods in Sport

SPTL 634 Foundations of Coaching

##### Spring 1: 12 credits

FIRE 623 Financial Management

MKTG 671 Marketing Management

SPTL 630 Sociology of Sport

SPTL 632 Sport Business

##### Summer 1: 6 credits

SPTL 695 Externship

Elective

##### Fall 2: 12 credits

ACCT 608 Managerial Accounting Concepts

INFO 661 Information Systems for Managers

SPTL 608 Sport and Entertainment Event Development

Elective

##### Spring 2: 12 credits

INFO 664 Information Systems for Business Intelligence

MGMT 675 Operations Management

SPTL 610 Sport and Entertainment Event Development

Elective

##### Summer 2: 6 credits

MGMT 642 Business Policy

Elective

## Business, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Business, Doctor of Philosophy (Ph.D.)			
Select one major specialization: accounting, information systems or management			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jan 1	GMAT
Special requirements:			
Accounting majors admitted fall 2003 and alternating years thereafter			

The Ph.D. in Business program is designed specifically for individuals intending to fill positions at institutions that require a balance of scholarly training, teaching and practical application of the appropriate field of study. With its small size — the program has less than 40 students — it allows for extensive one-to-one interaction between students and faculty. Three areas of study are offered: accounting, information systems and management.

A basic tenet of the Ph.D. in Business program is that the classic trilogy of research, teaching and service typically invoked in university mission statements is synergistic. The program strives to develop graduates who share this perspective and aspire to well-rounded individual roles within universities, colleges and other



learning organizations. For this reason, the program provides instruction in both research and teaching.

Instruction in basic and applied research is the cornerstone of the program. To fulfill the requirements for the degree, students must demonstrate successful completion of prerequisite and advanced courses, comprehensive examinations, and completion and defense of a dissertation. The advanced courses provide coverage in basic theories, methodologies and techniques needed to conduct research. The dissertation demonstrates the student's competence in conducting independent research.

Enhancement of teaching skills is emphasized in the program. It provides students with mentoring and teaching experience. Formal instruction designed to augment student teaching skills is also required. Mentoring involves teaming a student with a faculty member with the goal of augmenting student self-awareness and self-confidence in the classroom. Classroom experience is required to insure that the Ph.D. graduate enters the job market with certifiable teaching experience. The formal courses are designed to provide substantive instruction on teaching the adult learner.

A third aspect of the Ph.D. program is its emphasis on practical application in the area of study for students concentrating in accounting and information systems. In accounting, for example, emphasis is placed on projects based on real-world experience, and students are encouraged to develop papers around topics that address practical application of accounting concepts. In information systems, students usually work on projects brought in to the Information Systems Research Institute. These projects focus on user applications and emphasize solutions to specific requirements.

#### Student learning outcomes

- Students will demonstrate the ability to apply general principles of scientific research and complete an acceptable research project.
- Students will demonstrate the ability to (1) design a research study, (2) select the appropriate methodology and (3) develop the study into a research proposal.
- Students will demonstrate the ability to identify ethical dilemmas, in the major area of study, and know how to respond ethically to such issues.
- Students will demonstrate an understanding of current knowledge in the major area of study.
- Students will demonstrate the ability to effectively communicate and teach knowledge in the major area of study.
- Students will demonstrate the ability to develop and conduct research in the major area of study (i.e., complete an independent doctoral-level research project pertaining to the state of the art of the student's major area).

### Admission requirements

Admission will be restricted to those who are considered by the School of Business Ph.D. Committee to possess academic and professional qualifications necessary to succeed in the program and to make a contribution to the profession. Criteria considered will include, among other things, performance at the bachelor's and graduate levels, GMAT scores, letters of recommendation, as well as both academic and business experience. Department admission committees may accept GRE scores as they deem appropriate. Preference will be given to students who have fulfilled the general business prerequisites of the program. An interview is highly recommended. Applicants should contact the Graduate Studies in Business Office or the Ph.D. area coordinator for the applicant's intended major to schedule an interview. Admission to the doctoral program is highly competitive; consequently, qualified applicants may be denied admission because of insufficient space and resources. Applications should be completed by Jan. 1 for fall admission.

#### Prerequisite

Students are expected to be adequately prepared to begin doctoral study in their proposed major. Normally an M.B.A. degree earned from an AACSB-accredited institution is considered an indication of sufficient preparation. However, for the information systems major, the M.S. in Information Systems is considered sufficient preparation for doctoral study. Students deficient in preparation may be required to take necessary courses specified by the appropriate Ph.D. area coordinator or relevant designee.

### Degree requirements

Each student must select a major in one of the following specialties:

- Accounting
- Information systems
- Management

The following courses beyond those required at the master's level will be required for the Ph.D. degree.

All majors	credits
GRAD 602 College Teaching and Learning	2
Research tools determined by each area	12
Six or seven courses in the major area	18-21
Three or four additional courses	9-12
Dissertation research (minimum of 12 credits)	12
	<hr/> 53-59

In addition to the general academic regulations stated in the [Graduate Studies at VCU](#) section of this bulletin and the regulations listed earlier in this section for all students in graduate programs administered by the School of Business, Ph.D. students in the school are subject to the following requirements:

1. Students who fall below a 3.0 GPA will have one semester to make up that deficiency.
2. Full-time students must register each term for continuation in the program. Students who fail to register each term will be dropped automatically from the program and must reapply for reinstatement.
3. The maximum time to complete all the requirements for the degree is eight calendar years from the date of entry into the program. The maximum time to complete the course work, pass the comprehensive examination and present an acceptable dissertation proposal is five years from the date of entry.
4. Doctoral study involves a devotion to independent study outside the classroom and interaction with the faculty and other students. During the period of advanced course work, students must complete at least nine credits each semester for a minimum of two consecutive semesters, one of which may be a summer session.
5. A maximum of six semester credits may be transferred from another AACSB-accredited university and applied toward the Ph.D. course requirements. All transfer work must be at the A or B grade level. Transfer credit shall not be older than seven years at the time the Ph.D. degree is awarded. Transfer credit is given at the discretion of the director of graduate programs in business after consultation with appropriate departmental or faculty representatives.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

### Advising and evaluation

Each student will be assigned an adviser. The student's original program and any subsequent changes must be approved by the adviser and the director of graduate programs in business. A file will be maintained on all students in the Graduate Studies in Business Office where their progress will be monitored and coordinated. Each student is required to complete an approved program form and file it with the Graduate Studies in Business Office no later than the end of the first semester in which the student is admitted. Failure to do so may result in dismissal from the program.

### Ph.D. in Business Handbook

The School of Business publishes a handbook that provides a comprehensive overview of the policies and procedures involved in obtaining a Ph.D. in business at VCU. All procedures associated with the Ph.D. program are covered — from admission to graduation — with special emphasis placed on the dissertation process. The handbook includes detailed information about financial support, comprehensive examinations, and dissertation proposals and defenses. Students may download a copy of the handbook from the ["Current Graduate Students"](#) page on the School of Business website.



## Business, Master of Science (M.S.)

### Admission requirements summary

<b>Business, Master of Science (M.S.)</b>			
Indicate specialization: branding*, decision analytics, finance, global marketing management, human resource management or real estate valuation			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jul 1	GMAT
	Spring	Nov 1	GRE (for finance concentration only)
	Summer	Apr 1	GRE or GMAT
	*Fall only (branding)	May 15 April 15 (final deadline for international students)	required for communication strategy and creative brand management tracks
<b>Special requirements:</b>			
*Contact the VCU Brandcenter for specific admission requirements to the branding concentration and tracks: Call (800) 311-3341 toll-free, or visit the Web at <a href="http://www.brandcenter.vcu.edu">www.brandcenter.vcu.edu</a> .			

The Master of Science program provides in-depth knowledge of one business discipline and allows students to develop and build technical skills in their specific area of interest. It is frequently recommended for students with an undergraduate business degree. Concentrations are available in the following functional areas:

- Branding (through the VCU Brandcenter)
  - Art direction
  - Communications strategy
  - Copywriting
  - Creative brand management
  - Creative technology
- Decision analytics
  - Traditional
  - Professional
- Finance
- Global marketing management
- Human resource management
- Real estate valuation

### Student learning outcomes for a concentration in branding

- **Presentation skills:** Students will demonstrate the ability to effectively present/sell their ideas in a clear, concise and compelling manner.
- **Collaboration:** Students will demonstrate their ability to work together in cross-functional teams/groups (i.e., copywriter, art director, strategist, brand manager, creative technologist) to develop viable business/marketing solutions.
- **Creative and critical problem-solving:** Students will demonstrate the ability to research consumer culture (via secondary research, syndicated research and qualitative/quantitative research methods) and evaluate consumer media/technology usage habits to develop media-neutral business solutions.
- **Culture:** Students will demonstrate an appreciation, interest and openness for different cultures (both national and international) yielding more relevant, culturally savvy business solutions.
- **Craft:** Students will demonstrate the ability to execute specific skills related to their individual track.
  - **Art direction:** Solid layout/typography skills and strong conceptual thinking ability
  - **Copywriting:** Solid writing skills and strong conceptual thinking ability
  - **Communications strategy:** Solid understanding of consumer behavior, qualitative and quantitative research methods, and strategic thinking ability

- **Creative brand management:** Solid understanding of consumer behavior and corporate brand building
- **Creative technology:** Solid understanding of technology and how consumers can engage with brands through the use of technology

### Student learning outcomes for a concentration in decision analytics

- After examining a situation/problem, students will be able to develop appropriate hypotheses along with a method for testing them and be able to draw logical conclusions and make reasonable decisions based on available information.
- Students will be able to apply quantitative procedures to obtain solutions for real-world problems.
- Students will be able to appropriately address the target audience, use proper organization, create clear graphical displays and express ideas with clarity and grammatical correctness.
- Students will be able to show a clear understanding of the ethical nature of the issue and recommend appropriate action.

### Student learning outcomes for a concentration in finance

- Graduates will be able to conceptualize and apply quantitative measurement methods, to analyze business problems and to propose solutions.
- Graduates will be able to analyze a business problem in terms of both quantitative and qualitative aspects, including: (a) a precise statement of the problem and how it relates to the goals of the firm; (b) a consideration of the ethical, policy and/or practicality limitations on any proposed solution strategy; (c) a statement and consideration of proposed solutions strategies and their implementation within the limitations; and (d) a plan for implementation and monitoring of the proposed solution.
- Graduates will be able to analyze the ethical dimensions of a business situation and relate those dimensions to general ethical standards as well as to professional ethical standards.
- Graduates will be able to express the analytic, quantitative and ethical dimensions of business problems and proposed solutions in a clear and well-organized manner.

### Student learning outcomes for a concentration in global marketing management

- Students will evaluate marketing programs.
- Students will express the analytic, quantitative and ethical dimensions of business problems and proposed solutions in a clear and well-organized manner.

### Student learning outcomes for a concentration in human resource management

- Students will be able to analyze a human resources problem in terms of both quantitative and qualitative aspects including the development of a precise statement of the problem and how it relates to the goals of the firm, a consideration of policy and/or practical limitations on any proposed solution strategy and statement and consideration of proposed solution strategies and their implementation formulation of a plan for implementation and monitoring of the proposed solution.
- Students will be able to select, conceptualize and apply quantitative measurement and analysis to a business situation.
- Students will be able to analyze the ethical dimensions of a business situation and relate those dimensions to general ethics and to professional ethical standards in the human resources field. This outcome/objective was not assessed for the 2010-11 year.
- Students will be able to express qualitative and quantitative dimensions of HRM-related problems and present proposed solutions in a clear and well-organized manner.
- Students will be able to prepare and deliver a professional presentation on an issue relevant to the field of human resources.

### Student learning outcomes for a concentration in real estate valuation

- Graduates will demonstrate the ability to communicate the qualitative and quantitative dimensions of real estate valuation in a clear and well-organized manner.

- Graduates will be able to select, conceptualize and apply the appropriate quantitative measurement and analysis to correctly value real estate. Such methods might include an economic and financial analysis of commercial real estate investments, alternative financing structures and/or surveys of recent trends in the securitization of commercial real estate debt and equity markets.
- Graduates will be able to analyze a real estate valuation problem in terms of: 1) development of a precise statement of the problem and how it relates to the goals of the firm and/or client and in conformance to the Uniform Standards of Professional Appraisal Practice; 2) a consideration of the ethical, policy and/or practical limitations on any proposed solution strategy; 3) the statement and consideration of proposed solutions strategies and their implementation, including the application and development of the appropriate approaches to value (cost analysis, sales comparison analysis and income capitalization analysis, including direct capitalization and yield capitalization) along with a proper reconciliation of these approaches; and 4) the formulation of a plan for implementation and monitoring of the proposed solution.
- Graduates will be able to analyze the ethical dimensions of a real estate situation and relate those dimensions to professional ethical standards. Specifically, graduates will have an understanding of the Uniform Standards of Professional Appraisal Practice.

## Admission requirements

Admission criteria include undergraduate performance, GMAT scores, intellectual capacity, experience, and other indicators of the ability to pursue graduate study profitably. Deadlines are as follows:

Spring	Nov 1
Summer	Mar 1
Fall	Apr 1/early decision Jun 1/final deadline

## Program requirements

A course in college algebra is a prerequisite for some concentrations; a course in calculus is required for others. Some concentrations (e.g., real estate valuation) have additional undergraduate prerequisites as well. Some or all of these prerequisite courses may be waived for students who present satisfactory, equivalent preparation or may be taken after admission.

Each student in the program must complete a minimum of four 500-level foundation courses (12 credit hours) required for the M.B.A. degree. Foundation courses may be waived for students who present satisfactory, equivalent preparation at either the undergraduate or graduate level. Students who are required to take foundation courses may do so at the graduate level after admission. The foundation courses required will vary depending upon the student's background, career interests and the chosen area of specialization. Applicants should consult with the area coordinators or department chairs or the director of graduate programs in business to determine the foundation courses required for a particular area. Each student in the program also must complete a minimum of 10 600-level advanced courses (30 credit hours), although up to two additional courses (six credit hours) may be required for some concentrations. A student, in consultation with a faculty adviser, selects a set of advanced courses to create a tailored and focused program of study. Applicants should consult with the area coordinators, department chairs, or the director of graduate programs in business to determine the departmental guidelines controlling the required courses and electives for a particular concentration.

For additional information, refer to the Web: <http://www.gsib.vcu.edu>.

## Branding

The VCU Brandcenter offers graduate studies in advertising and branding. The program provides advanced preparation for creative and strategic advertising development. The branding concentration of the M.S. in Business is divided into five tracks:

- Art direction
- Communications strategy
- Copywriting

- Creative brand management
- Creative technology

The working environment at the Brandcenter is similar to an advertising agency: Teams of students work together to develop campaigns.

After the first year, qualified students are offered internships where they experience ad agency life and foster industry relationships. In their second year, students are given the opportunity to network through a mentoring program in which students are matched with agency professionals who offer advice and assistance.

### General degree requirements

The Brandcenter's master's degree requires 42 hours beyond the baccalaureate degree. Students devote two years of full-time study to complete the degree requirements. To graduate, students must present a final major project, in portfolio form, before a committee review panel.

All students in the Brandcenter must complete a core curriculum in addition to those courses outlined for the specific tracks below.

Branding core curriculum	Credits
BRND 638 Brand Engagement	3
BRND 651 Creative Thinking	3
BRND 655 Brand Interaction	3
BRND 659 Brand Experiences	3
BRND 664 Persuasion	3
BRND 677 The Business of Branding	3
<b>Total</b>	<b>18</b>

Branding/art direction track	Credits
BRND 601 Digital Suite	1
BRND 622 Visual Storytelling	3
BRND 630 Problem Solving for Art Directors	3
BRND 631 Craft	3
BRND 652 Concept Development	3
BRND 653 Portfolio Development	3
BRND 670 Creative Fusion	3
BRND 673 Experimentation	2
BRND 678 Professional Possibilities	1
BRND 696 Individuation	2
<b>Total</b>	<b>24</b>

Branding/communications strategy track	Credits
BRND 627 Visual Storytelling for Strategists	2
BRND 629 Strategic Thinking	3
BRND 639 Consumer Culture	3
BRND 647 Insights and Implications	3
BRND 648 Innovation	2
BRND 649 Brand Analytics	3
BRND 656 Supervised Research Study	1
BRND 661 Modern Media	3
BRND 662 Research Methodologies	3
BRND 678 Professional Possibilities	1
<b>Total</b>	<b>24</b>

Branding/copywriting track	Credits
BRND 601 Digital Suite	1
BRND 622 Visual Storytelling	3
BRND 631 Craft	3
BRND 640 Problem Solving	3
BRND 652 Concept Development	3
BRND 653 Portfolio Development	3
BRND 670 Creative Fusion	3
BRND 673 Experimentation	2
BRND 678 Professional Possibilities	1
BRND 696 Individuation	2
<b>Total</b>	<b>24</b>

Branding/creative brand management track	Credits
BRND 608 Accounting for Communication Professionals	3
BRND 629 Strategic Thinking	3
BRND 632 Foundations of Brand Management	2
BRND 649 Brand Analytics	3

BRND 661 Modern Media	3
BRND 662 Research Methodologies	3
BRND 667 Applied Brand Management	3
BRND 668 Advanced Brand Management	2
BRND 690 Supervised Business Study	1
<b>Total</b>	<b>24</b>

<b>Branding/creative technology track</b>	<b>Credits</b>
BRND 609 Information Architecture	3
BRND 622 Visual Storytelling	3
BRND 633 User Participation Platforms	2
BRND 634 Mobility	2
BRND 635 Creating Gravitational Pull	3
BRND 636 Data Cultivation	2
BRND 637 Adaptive Experiences	3
BRND 666 Futurology	3
BRND 674 Applied Creative Technology	3
<b>Total</b>	<b>24</b>

### Decision analytics/traditional

The Master of Science in Business with a decision analytics/traditional concentration provides students with knowledge of quantitative skills and experience in analyzing problems and using data for decision-making in a business environment. Depending upon individual student interests and adviser approval, the required nucleus is supplemented with relevant elective courses from within the School of Business or from outside departments.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

#### Curriculum

##### Prerequisite course

All students must have completed a course in calculus prior to attempting graduate business courses. This prerequisite can be met after admission to the program.

##### Foundation courses

Students must complete up to four classes (0 to 12 credit hours) from the following list. At the time of application, all undergraduate and graduate transcripts will be reviewed to determine if the following courses may be waived. Waivers of foundation courses only occur when a student has completed the required undergraduate equivalent courses with a minimum grade of C.

MGMT 524 Statistical Elements of Quantitative Management  
And three of the courses below, or proof provided of satisfactory equivalent preparation  
ACCT 507 Fundamentals of Accounting  
FIRE 520 Financial Concepts of Management  
MGMT 540 Management Theory and Practice  
MKTG 570 Concepts and Issues in Marketing

##### Required core courses

Students must complete 12 credit hours in the following courses:

INFO 664 Information Systems for Business Intelligence  
MGMT 632 Statistical Analysis  
MGMT 645 Management Science  
OPER 528 Stochastic Simulation

Students also must complete six credit hours by taking two of the following four courses:

INFO 614 Data Mining  
MGMT 643 Applied Multivariate Methods  
MGMT 669 Forecasting Methods for Business  
MGMT 677 Quality Management and Six Sigma

Students also must complete 12 credit hours from the School of Business approved electives list below or other graduate courses that meet the approval of the faculty adviser.

**School of Business approved electives** (other business or university graduate courses may be selected that would fit with the student's interests and career objectives)

ACCT 608 Managerial Accounting Concepts  
ECON 610 Managerial Economics

ECON 612 Econometrics  
FIRE 629 Real Estate Investment Analysis  
FIRE 635 Investments and Security Analysis  
INFO 610 Analysis and Design of Database Systems  
INFO 611 Data Engineering  
INFO 616 Data Warehousing  
MGMT 648 Managerial Decision Making or OPER 643 Decision and Risk Analysis  
MGMT 675 Operations Management  
MGMT 691 Topics in Management (supply chain management or topic approved by adviser)  
MGMT 697 Guided Study in Management  
MKTG 673 Marketing Research  
MKTG 691 Topics in Marketing (marketing analytics or topic approved by adviser)

Note: Students may also take any remaining course from the list above (INFO 614, MGMT 643, MGMT 669 or MGMT 677) to count as an elective.

### Decision analytics/professional

#### Admission requirements summary

Decision analytics/professional			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Apr 15 Nov 15	GMAT OR GRE

#### Admission requirements summary

The Master of Science in Business with a concentration in decision analytics provides students with a breadth of analytical and quantitative skills as well as with experience in analyzing and communicating solutions to problems arising in an organization.

The professional track offers a concentrated weekend schedule, making the program attractive to midcareer professionals who want to gain or increase their analytics skills without interrupting their careers.

#### Student learning outcomes

**Database structures and query:** Students will have an understanding of basic database structures, be able to query databases and organize data for analysis.

**Quantitative skills:** Students will be able to identify appropriate data analysis approaches to address real-world problems. They will be able to perform the analysis using commercial software.

**Problem formulation:** Students will have the knowledge, skills and practice to taking non-quantitative and perhaps ill-formed problems and issues and determining ways objective analysis can bring organization and insight to them. They will be able to determine data requirements and query available databases.

**Analytics applications:** Students will experience various applications of analytics in real situations.

**Technical communications:** Students will be able to communicate analytical analysis and results effectively to non-quantitative audiences. This includes informal discussions, formal presentations and written reports.

**Teamwork:** Student will develop skills in organizing, interacting and analyzing real problems as members of a team.

#### Program admission

Acceptance into the program requires a bachelor's degree from an accredited university or college. The major is not important, but applicants must have demonstrated mathematical ability. Math ability can be demonstrated by university transcripts or an entrance test. Applicants should have three years of work experience in an application area. Students without the required work experience can take six hours of graduate-level courses in an application area prior to acceptance into the program. Applicants are expected to have successfully completed an undergraduate or graduate course in statistics and it's preferable that they have programing experience. Exceptions can be made at the discretion of the director.

**Foundation courses**

Students must complete up to four classes (0 to 12 credit hours) from the following list. At the time of application, all undergraduate and graduate transcripts will be reviewed to determine if the following courses may be waived. Waivers of foundation courses only occur when a student has completed the required undergraduate equivalent courses with at least a C grade.

MGMT 524 Statistical Elements of Quantitative Management  
And three of the courses below, or proof provided of satisfactory equivalent preparation  
ACCT 507 Fundamentals of Accounting  
FIRE 520 Financial Concepts of Management  
MGMT 540 Management Theory and Practice  
MKTG 570 Concepts and Issues in Marketing

**Curriculum****Prerequisites**

Since the program is cohort and lock-step, all prerequisites are built into the program.

Courses	Credits
DAPT 611 Analysis and Design of Database Systems	3
DAPT 612 Text Mining and Unstructured Data?	2
DAPT 613 Tools for Business Intelligence	2
DAPT 621 Statistics for the World of Big Data	3
DAPT 622 Statistics for the World of Big Data II	2
DAPT 631 Data Mining	2
DAPT 632 Forecasting Methods and Applications for Managerial Decision-making	2
DAPT 633 Introduction to Marketing and Customer Analytics	2
DAPT 641 Introduction to Simulation Methods	1
DAPT 642 Introduction to Risk Analysis	1
DAPT 643 Introduction to Optimization Models	1
DAPT 651 Personal, Interpersonal and Organizational Awareness	1
DAPT 652 Professional Presentations: Strategy, Delivery and Technology	1
DAPT 653 Written Communications: Strategy, Structure and Connection	1
DAPT 654 Written Communications: Strategy, Structure and Connection II	1
DAPT 661 Issues in Analytics (1-credit course repeated for 3 credits)	3
DAPT 670 Analytics Problem Formation	2
DAPT 681 Analytics Practicum I	1
DAPT 682 Analytics Practicum II	2
<b>Total</b>	<b>33</b>

Note: There are no electives, substitutions or exemptions.

**Finance**

The finance concentration is designed to prepare students for financial decision-making positions in corporate, investment, financial and governmental institutions. Courses offered in finance include advanced financial management, investments and security analysis, funds management in financial institutions, international finance, and derivatives.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

**Prerequisite**

Calculus (MGMT 212 or MGMT 500)

**Foundation courses** (0 to 12 credit hours, dependent on the number of courses waived)

ACCT 507 Fundamentals of Accounting  
ECON 500 Concepts in Economics  
FIRE 520 Financial Concepts of Management  
MGMT 524 Statistical Elements of Quantitative Management

**Core area** (15 credit hours)

FIRE 622 Financial Management of Financial Institutions  
FIRE 623 Financial Management  
FIRE 635 Investments and Security Analysis  
FIRE 639 International Finance  
FIRE 650 Derivatives

**Finance, insurance and real estate electives** (12 credit hours)

Students select four of the following courses:

FIRE 621 Cases in Financial Management  
FIRE 625 Group Insurance and Pension Planning  
FIRE 626 Risk Management  
FIRE 629 Real Estate Investment Analysis  
FIRE 654 Short-term Financial Management  
FIRE 657 Current Issues in Investments and Markets  
FIRE 658 Real Estate Finance and Investments  
FIRE 664 Current Issues in Corporate Finance  
FIRE 691 Topics in Finance, Insurance and Real Estate  
FIRE 693 Field Project in Finance, Insurance and Real Estate\*  
FIRE 697 Guided Study in Finance, Insurance and Real Estate

\* FIRE 693 Field Project in Finance, Insurance and Real Estate is recommended for full-time students. The department will work closely with full-time students and prospective employers in order to achieve this goal.

A student may substitute a free elective for one of the FIRE electives with the approval of the director of the concentration in finance.

**Free electives** (3 credit hours)

Students may choose any free elective approved by the director of the M.S. program in finance. Students are encouraged to select accounting, economics, math or statistics courses.

**Global marketing management**

The Master of Science in Business with a global marketing management concentration offers students the opportunity to concentrate their studies in two related areas: marketing management and global business management. Students select foundation, core and/or elective courses in accounting, economics, finance or management to complement marketing courses in the program. Students interested in preparing for the increasingly global nature of business will be well suited for this unique Master of Science degree program. All degree candidates are strongly encouraged to participate in an intensive study program in a foreign language and/or a foreign study program.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

**Foundation courses** (0 to 21 credit hours; these courses may be waived for students who have taken equivalent material at the undergraduate level.)

ACCT 507 Fundamentals of Accounting  
ECON 500 Concepts in Economics  
FIRE 520 Financial Concepts of Management  
MGMT 524 Statistical Elements of Quantitative Management  
MKTG 570 Concepts and Issues in Marketing



Two-course sequence in a foreign language at the undergraduate or graduate level (or demonstrated proficiency)

**or**

Two approved cross-cultural courses taken at the undergraduate or graduate level

**Required marketing and strategy courses** (15 credit hours)

MGMT 642 Business Policy (to be taken in the last semester)

MKTG 656 International Marketing

MKTG 657 International Marketing Planning Project

MKTG 671 Marketing Management

MKTG 673 Marketing Research

**Marketing electives** (choose three; 9 credit hours)

MKTG 672 Concepts in Consumer Behavior

MKTG 674 Service Quality Management

MKTG 691 Topics in Marketing

MKTG 693 Field Study in Marketing

MKTG 697 Guided Study in Business

**Non-marketing electives** (choose two; 6 credit hours)

ACCT 606 International Accounting

ECON 609 Advanced International Economics

FIRE 621 Cases in Financial Management

FIRE 639 International Finance

INFO 658 Electric Commerce

MGMT 632 Statistical Analysis

MGMT 643 Applied Multivariate Methods

MGMT 644 International Business Management

MGMT 655 Entrepreneurship

MGMT 669 Forecasting Methods for Business

Or other approved graduate-level courses outside the School of Business

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## Human resource management

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The Master of Science in Business with a human resource management concentration is designed to provide students with an in-depth understanding of the field and its problems and opportunities. Utilizing an interdisciplinary approach, the curriculum combines courses from within and outside the School of Business to focus on the dynamics of an ever-changing field from a local, national and international perspective. Topics included in the curriculum reflect the body of knowledge covered in professional certification examinations administered by the [Human Resource Certification Institute](#). The ultimate objective of the program is to prepare students for a career in human resource management.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

**Foundation courses** (0 to 15 credits)<sup>1</sup>

MGMT 500 Quantitative Foundation for Decision Making

MGMT 524 Statistical Elements of Quantitative Management

Choose any three of the following:

ACCT 507 Fundamentals of Accounting

ECON 500 Concepts in Economics

FIRE 520 Financial Concepts of Management

MGMT 530 Fundamentals of the Legal Environment of Business

MGMT 540 Management Theory and Practice

MKTG 570 Concepts and Issues in Marketing

**Core requirements** (12 credits)

MGMT 637 Advanced Human Resource Management

MGMT 641 Organizational Leadership and Project Team Management<sup>2</sup>

Research methods – choose one

EDUS 661 Educational Evaluation: Models and Designs

PADM/GVPA/CRJS/URSP 623 Research Methods for Government and Public Affairs

PADM 654 Program Design and Evaluation in the Nonprofit Sector

Global focus – choose one

MGMT 644 International Business Management

MGMT 684 Issues in International Human Resource Management

**Human resource electives** (12 credits) – choose four

ECON 631 Labor Market Theory and Analysis

FIRE 625 Group Insurance and Pension Planning

MGMT 632 Statistical Analysis<sup>3</sup>

MGMT 646 Legal Foundations of Employment

MGMT 649 Compensation Policy and Administration

MGMT 677 Quality Management and Six Sigma

MGMT 680 Health, Safety and Security Administration

MGMT 682 Human Resource Staffing

MGMT 684 Issues in International Human Resource Management<sup>4</sup>

**Interdisciplinary electives** (6 credits) – choose two

ADLT 620 Human Resource Development Overview

ADLT 623 Organizational Learning

ADLT 625 Change Strategies for HRD Practitioners

PADM 607 Public Human Resource Management

PADM 691 Topics in Public Administration<sup>5</sup>

**Notes**

<sup>1</sup> Some or all foundation courses may be waived if a student has completed equivalent undergraduate courses prior to admission.

<sup>2</sup> Available to non-MBA students only in the summer.

<sup>3</sup> Strongly recommended for students considering doctoral study.

<sup>4</sup> May not serve as an elective when taken as a global focus course.

<sup>5</sup> Requires approval of the program adviser.

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## Joint degree: Master of Science in Business with concentration in global marketing management (in conjunction with Fudan University)

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Students enrolled in the VCU-Fudan University joint degree program take all required courses at Fudan University in Shanghai and an encouraged practicum course at VCU at the end of the program. The program will be jointly taught by faculty from both VCU and Fudan. The program requires a minimum of 30 credit hours and provides the option to complete a practicum for a total of 33 credits maximum. Upon completion of the requirements students will receive a Master of Science in Business with a concentration in global marketing management from VCU.

## Admissions requirements

Students must meet the general admission requirements for the M.S. in Business program.

### Curriculum information

**Preparatory foundation courses taken at Fudan**

**(up to 21 credit hours, not counted toward 30 credit hours for degree)**

Concepts and Issues in Marketing (3)

Statistical Elements of Quantitative Management (3)

Fundamentals of Accounting (3)

Financial Concepts of Management (3)

Concepts of Economics (3)

Two-course sequence in a foreign language at the undergraduate or graduate level (or demonstrated proficiency) **or** two approved cross-cultural courses taken at the undergraduate or graduate level (6)

## Required core courses

MGMT 642 Business Policy

MKTG 656 International Marketing

MKTG 657 International Market Planning Project

MKTG 671 Marketing Management

MKTG 673 Marketing Research



**Marketing electives (choose three; nine credit hours):**

MKTG 672 Concepts in Consumer Behavior  
 MKTG 674 Service Quality Management  
 MKTG 697 Guided Study in Marketing  
 MKTG 691 Topics in Marketing  
 MKTG 693 Field Project in Marketing

**Non-marketing electives (choose two; six credit hours):**

ACCT 606 International Accounting  
 ECON 609 Advanced International Economics  
 FIRE 621 Cases in Financial Management  
 FIRE 639 International Finance  
 INFO 658 Electric Commerce  
 MGMT 632 Statistical Analysis  
 MGMT 643 Applied Multivariate Methods  
 MGMT 644 International Business Management  
 MGMT 655 Entrepreneurship  
 MGMT 669 Developing and Implementing Forecasting Methods for Business  
 Or other approved graduate-level courses outside the School of Business

**Practicum**

Students are strongly encouraged to complete an additional three credit hours in a practicum course taught at VCU at the end of the program.

**Real estate valuation**

The real estate valuation concentration is one of only eight programs in the nation that satisfies the rigorous educational requirements of the Appraisal Institute's MAI designation. Students can satisfy most of the Appraisal Institute's education requirements by completing the concentration. This concentration emphasizes real estate valuation while providing comprehensive education in related disciplines so that graduates' analytical skills and abilities to communicate with other professionals are greatly enhanced. Whenever possible, students will be placed in internships with MAIs.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

**Prerequisite courses**

FIRE 425 Real Estate Appraisal  
 FIRE 431 Advanced Real Estate Appraisal  
 A course in calculus (MGMT 212 or MGMT 500)

**Foundation courses** (0 to 18 hours, dependent on the number of courses waived)

ACCT 507 Fundamentals of Accounting  
 ECON 500 Concepts in Economics  
 FIRE 520 Financial Concepts of Management  
 MGMT 524 Statistical Elements of Quantitative Management  
 MGMT 530 Fundamentals of the Legal Environment of Business  
 MKTG 570 Concepts and Issues in Marketing

**Required courses** (30 credit hours)

ECON 617 Financial Markets  
 FIRE 621 Cases in Financial Management  
 FIRE 627 Real Estate Development  
 FIRE 628 Using GIS in Real Estate Decisions  
 FIRE 629 Real Estate Investment Analysis  
 FIRE 638 Real Property Investment Law  
 FIRE 658 Real Estate Finance and Investments  
 FIRE 697 Guided Study – Real Estate

FIRE 697 is a supervised research course that involves the preparation of a narrative income-property appraisal report or research project.

MGMT 632 Statistical Analysis

MKTG 673 Marketing Research

**Economics, Master of Arts (M.A.)****Admission requirements summary****Economics, Master of Arts (M.A.)**

Indicate specialization:

The Master of Arts in Economics is designed to enhance the students' abilities to use economic modeling to conduct applied analytical and econometric research. Students in this program are expected to demonstrate competence over a rigorous and current core curriculum in microeconomic and macroeconomic theory and in econometrics.

Graduates of the program should be well qualified to conduct applied economic analysis in either a government or corporate research setting. The program also is an excellent preparation for entry into a doctoral program in economics or finance.

Students may elect a Master of Arts in Economics without specialization or may specialize in financial economics or health economics. The specialization in financial economics combines the theoretical and econometric foundation obtained in the core courses of the concentration in quantitative economics with an in-depth study of their application to financial markets.

The specialization in health economics combines the theoretical and econometric foundation obtained in the core courses of the concentration in quantitative economics with an in-depth study of their application to the health sector.

The Master of Arts in Economics without specialization requires 30 semester hours of work, while the specialization in financial economics requires 33 semester hours. Both a thesis and a nonthesis option are available.

**Student learning outcomes**

- A student can use optimization techniques to develop demand and cost conditions from specifications of underlying utility and technology. Specifically, given a simple functional form for utility a student is able to solve for optimal individual demand, and given a production technology, a student is able to solve for the firm's cost curves.
- Students will understand and know how to apply quantitative macroeconomic models. Excellent: Students select the appropriate model, apply it correctly and generate appropriate quantitative predictions. Satisfactory: Students select the appropriate model, but make minor errors in generating appropriate quantitative predictions. Unsatisfactory: Students fail to select the appropriate model. In the AACSB classifications, this is a general knowledge and skills goal.
- Students will critically evaluate the validity of conclusions drawn from econometric models by others who have access to the primary data. In the AACSB classifications, this is a management specific goal.

**Admission criteria**

Admission criteria include undergraduate performance, the Graduate Record Examination (GRE), intellectual capacity, experience and other indicators of the ability to pursue graduate study profitably. The GRE subject test in economics is not required. Applicants to the financial economics track may substitute the GMAT for the GRE. Applications should be completed at least eight weeks prior to the beginning of the semester or summer session desired.

**Financial economics specialization****Admission requirements summary****Financial economics specialization**

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall Spring Summer	Jul 1 Nov 1 Apr 1	GRE-General (GMAT is acceptable)

**Degree requirements**

One course in each of the following subject areas is a prerequisite for the specialization in financial economics: intermediate macroeconomic theory, intermediate microeconomic theory, introductory econometrics, calculus and finance. The student's adviser will review the student's economics and mathematical background to determine the extent to which the student has satisfied the prerequisites. Required prerequisites may be taken after admission.

The specialization in financial economics requires 33 semester hours of 600-level courses. Under the thesis option, the 33 hours must include nine core courses and two restricted electives. Under the non-thesis option, the 33 hours must include seven core courses, three restricted electives and one general elective in economics, finance or other approved field.

**Degree requirements with thesis**

Core area	credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 617 Financial Markets	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
ECON 798-799 Thesis in Economics	6
	<hr/> 27

**Restricted electives**

Two of the following three courses	6
ECON 623 Anomalies in Financial Economics	
FIRE 635 Investments and Security Analysis	
FIRE 650 Derivatives	
	<hr/> 33

**Degree requirements without thesis**

Core area	credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 617 Financial Markets	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
	<hr/> 21

**Restricted electives**

Three of the following four courses	9
ECON 623 Anomalies in Financial Economics	
FIRE 623 Financial Management	
FIRE 635 Investments and Security Analysis	
FIRE 650 Derivatives	
	<hr/> 30

Approved elective in economics, finance or other field	3
	<hr/> 33

Note: Electives are approved in consultation with the graduate adviser for the Master of Arts in Economics.

**Health economics specialization****Admission requirements summary**

Health economics specialization			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall Spring Summer	Jul 1 Nov 1 Apr 1	GRE-General (GMAT is acceptable)

**Degree requirements**

One course in each of the following subject areas is a prerequisite for the specialization in health economics: intermediate macroeconomic theory, intermediate microeconomic theory, introductory econometrics, calculus. The student's adviser will review the student's economics and mathematical background to determine the extent to which the student has satisfied the prerequisites. These prerequisite courses may be taken after admission.

The specialization in health economics requires 33 semester hours of 600-level courses. Under the thesis option, the 33 hours must include eight core courses and three restricted electives. Under the non-thesis option, the 33 hours must include six core courses and five restricted electives.

**Degree requirements without thesis**

Core area	Credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
<b>Total</b>	<b>18</b>

**Restricted electives**

Choose five of the following courses	15
ECON 616 Public Economics	
ECON 631 Labor Economics	
HADM 602 Health System Organization, Financing and Performance	
HADM 624/ECON 624 Health Economics	
HCPR 701 Health Services Research and Policy I	
HCPR 703 Health Economics: Theory and Principles	
HCPR 733 Statistical Methods in Analysis of Healthcare Research	

**Total** **33**

**Degree requirements with thesis**

Core area	Credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
ECON 798-799 Thesis in Economics	6
<b>Total</b>	<b>24</b>

**Restricted electives**

Choose three of the following courses	9
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ECON 616 Public Economics  
 ECON 631 Labor Economics  
 HADM 602 Health System Organization, Financing and Performance  
 HADM 624/ECON 624 Health Economics  
 HCPR 701 Health Services Research and Policy I  
 HCPR 703 Health Economics: Theory and Principles  
 HCPR 733 Statistical Methods in Analysis of Healthcare Research

**Total** 33

### Without specialization

#### Admission requirements summary

Without specialization			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.A.	Fall	Jul 1	GRE-General
	Spring	Nov 1	
	Summer	Apr 1	

#### Curriculum

One course in each of the following subject areas is a prerequisite for the Master of Arts in Economics: intermediate macroeconomic theory, intermediate microeconomic theory, introductory econometrics and calculus. The student's adviser will review the student's economics and mathematical background to determine the extent to which the student has satisfied prerequisites. Required prerequisites may be taken after admission. The degree requires 30 semester hours of 600-level credit. Under the thesis option, the 30 hours must include eight core courses and one economics elective, and one business or economics elective. Under the nonthesis option, the 30 hours must include six core courses, two economics electives, and two business or economics electives.

#### Degree requirements with thesis

Core area	credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
ECON 798-799 Thesis in Economics	6
	24

Approved economics elective	3
Approved elective in economics, business or other field	3
	30

#### Degree requirements without thesis

Core area	credits
ECON 604 Advanced Microeconomic Theory	3
ECON 607 Advanced Macroeconomic Theory	3
ECON 612 Econometrics	3
ECON 614 Mathematical Economics	3
ECON 641 Econometric Time Series Analysis	3
ECON 642 Panel and Nonlinear Methods in Econometrics	3
	18

Approved economics electives	6
Approved electives in economics, business or other field	6
	30

### Information Systems, Master of Science (M.S.)

#### Admission requirements summary

Information Systems, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jul 1	GMAT
	Spring	Nov 1	
	Summer	Apr 1	
	Summer (information risk, security and assurance concentration)	Jan 1	

The Master of Science in Information Systems program is designed to prepare students for specialized roles in information systems. The program is intended to provide a graduate-level, technically oriented curriculum that focuses on the design and development of information systems to solve real-world problems. The department's curriculum is focused on the rapidly emerging area known as Enterprise Information Systems. Students may choose a curriculum with no concentration or a concentration in information risk, security and assurance. Graduates of the program are expected to be able to take significant roles in planning, organizing, managing, designing, configuring and implementing EIS systems using state-of-the-art technologies within organizations.

The information risk, security and assurance concentration within the degree is designed primarily for students interested in professional roles in business, industry or government. Program graduates will serve as leaders within the risk, security and assurance community and as strategic partners with the enterprise in which they work. They will stay attuned to and anticipate changes in the risk, security and assurance environment and ensure that security solutions create a sound, competitive and cost-effective advantage for the enterprise.

Students applying to the master's program must show evidence of competence in selected prerequisite areas of information systems including: application programming, systems analysis and design, database, telecommunications, and hardware/software. Evidence of this competence may include formal course work, comparable training within a work environment, or significant, relevant and recent work experience in the field. Students enrolled as majors in the program who do not have formal background or equivalent training must take the appropriate undergraduate courses to satisfy the prerequisites prior to taking master's program courses. The required undergraduate courses are: INFO 300, INFO 350, INFO 360, INFO 361, INFO 370, INFO 364 and a course in calculus.

Students who do not have a business degree must complete a minimum of four 500-level foundation courses (12 credit hours). Foundation courses may be waived for students who present satisfactory, equivalent preparation at either the undergraduate or graduate level. Students who are required to take foundation courses may do so after admission. The foundation courses required will vary depending upon the student's background, career interests and the chosen area of specialization. Students applying to the Master of Science in Information Systems program should consult with their master's program adviser to determine the foundation courses required for a particular area.

#### Student learning outcomes

- Graduates should be capable of 1) communicating and networking effectively within their profession and within their organizations; 2) serving our profession by applying this knowledge broadly; and 3) maintaining key technical expertise in order to sustain required levels of competitiveness.
- Students should have an understanding of information technology as it applies to business contexts and the skill to apply this technology effectively in specific circumstances.

- Develop efficient and effective IS solutions using appropriate technologies that can deliver competitive advantages to organizations.
- Develop and incorporate changes in the planning and management of IS resources based on an increased understanding of the dynamic changes in the organization, IS and global environments.

### Curriculum for the M.S. with no concentration

The program consists of 30 graduate credit hours, including four core courses (12 credit hours) and six elective courses (18 credit hours).

Core courses	Credits
INFO 610 Analysis and Design of Database Systems	3
INFO 620 Data Communications	3
INFO 630 Systems Development	3
INFO 640 Information Systems Management	3
<b>Electives</b> (Select six from the following list)	18
INFO 611 Data Re-engineering	
INFO 614 Data Mining	
INFO 616/CISS 616 Data Warehousing	
INFO 622/CISS 622 Network Security and Administration	
INFO 632 Business Process Engineering	
INFO 641 Strategic Information Systems Planning	
INFO 642 Decision Support and Intelligent Systems	
INFO 643 Information Technology Project Management	
INFO 644/CISS 644 Principles of Computer and Information Systems Security	
INFO 646 Security Policy Formulation and Implementation	
INFO 654 Systems Interface Design	
INFO 658 Electronic Commerce	
INFO 691 Topics in Information Systems	
INFO 693 Field Project in Information Systems	
INFO 697 Guided Study in Information Systems	
<b>Total</b>	<b>30</b>

### Curriculum for the M.S. with a concentration in information risk, security and assurance

The program consists of 30 graduate credit hours, including four core courses (12 credit hours) and six advanced courses (18 credit hours).

Core courses	Credits
INFO 610 Analysis and Design of Database Systems	3
INFO 620 Data Communications	3
INFO 630 Systems Development	3
INFO 640 Information Systems Management	3
<b>Advanced courses</b>	
INFO 634 Ethical, Social and Legal Issues in Computer and Information Systems Security	3
INFO 614 Data Mining	3
INFO 622/CISS 622 Network Security and Administration	3
INFO 644/CISS 644 Principles of Computer and Information Systems Security	3
INFO 646 Security Policy Formulation and Implementation	3
INFO 691 Topics in Information Systems	3
<b>Total</b>	<b>30</b>

### Fast Track Executive Master of Science in Information Systems (M.S.) – information technology management

The Fast Track Executive Master of Science in Information Systems with a concentration in information technology management provides an opportunity for current information technology professionals and business managers to receive the necessary preparation to move into IT management roles. Participants gain a wide range of new skills and knowledge by combining course work with their day-to-day professional activities. The program is targeted to rising business executives, entrepreneurs and information systems professionals. The program differs from the regular M.S. in Information Systems program in that it is offered in a weekend

format, with students meeting for classes on alternate weekends throughout the calendar year. The lock-step program consists of 10 required courses.

	credits
ISTM 671 Organizational Culture and Team Building	3
ISTM 672 Information Systems Management	3
ISTM 673 Analysis and Decisions	3
ISTM 674 Emerging Technologies	3
ISTM 675 IS Planning and Project Management	3
ISTM 676 Information Systems Assurance and Security Management	3
ISTM 677 Structuring Information for Decision Making	3
ISTM 678 IS in the Digital Economy	3
ISTM 679 Enterprise Information Systems	3
ISTM 691 Topics in IT Management	3

The program is designed for students familiar with business foundations as well as with technical areas of information systems, including programming, systems analysis and design, database, and data communications. The student's adviser will review the student's educational and professional background to determine the extent to which the student has satisfied the prerequisites. Students lacking in prerequisite knowledge will be required to participate in special training sessions provided by the School of Business.

### Combined Fast Track Master of Business Administration (M.B.A.) and Master of Science in Information Systems (M.S.) – information technology management

Students in the Fast Track M.B.A. program have the option to continue with the Fast Track Executive M.S. in Information Systems – Information Technology Management program after having completed the requirements for the Fast Track M.B.A. to earn both degrees. Students pursuing this dual degree option will have four courses in the Fast Track M.S. program waived (these four courses cover the information systems content of the Fast Track M.B.A. program).

### Combined Master of Business Administration (M.B.A.) and Master of Science in Information Systems (M.S.)

Students can earn both M.B.A. and M.S. in Information Systems degrees by having 12 credits counted toward both degrees, thus requiring only 54 credits total of advanced course work (not counting foundation courses), rather than the 36 and 30 credits normally required for the two degrees. Students in the combined degree program will follow the same schedule as regular M.B.A. students, including the two lockstep semesters. To get both degrees, students will take all foundation courses required for the M.B.A., unless waived, all nine core courses required for the M.B.A., and nine additional courses in the M.S. in Information Systems program, including INFO 610, INFO 620 and INFO 630. Students whose undergraduate degree is not in Information Systems may also be required to take additional undergraduate prerequisite courses before taking the graduate information systems courses, as determined by the program adviser. The INFO 661 course taken for the M.B.A. will substitute for INFO 640, normally required for the M.S. in Information Systems degree, and three of the additional information systems courses also will count toward the normally required three elective courses in the M.B.A. program.

One of the information systems courses must have substantial global, entrepreneurial and/or experiential components. The six information systems courses to be taken in addition to INFO 661, INFO 664, INFO 610, INFO 620 and INFO 630 must be approved by the program adviser, and would normally be selected to satisfy one of the M.S. in Information Systems tracks.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

**Real Estate and Urban Land Development, Certificate in (Post-baccalaureate graduate certificate)**

**Admission requirements summary**

<b>Real Estate and Urban Land Development, Certificate in (Post-baccalaureate graduate certificate)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring Summer	Jul 15 Nov 15 Mar 15	
<b>Special requirements:</b> Minimum of five years experience is preferred.			

The Graduate Certificate in Real Estate and Land Development is designed for professionals who seek an opportunity for advanced study in real estate and are more interested in the focused knowledge obtainable than receipt of a graduate degree. The certificate provides students the ability to advance their careers while receiving recognition for their academic accomplishment in the form of a graduate certificate. Many working professionals, especially those with undergraduate majors in liberal arts, will find this program attractive since they can concentrate their energies on a tightly focused curriculum without enrolling in a large number of prerequisite courses. The graduate certificate may be completed by taking both on-campus and internet-based courses.

**Student learning outcomes**

- Graduates will demonstrate the ability to communicate the qualitative and quantitative dimensions of real estate valuation in a clear and well-organized manner.
- Graduates will be able to select, conceptualize and apply the appropriate quantitative measurement and analysis to correctly value real estate. Such methods might include an economic and financial analysis of commercial real estate investments, alternative financing structures and/or surveys of recent trends in the securitization of commercial real estate debt and equity markets.
- Graduates will be able to analyze a real estate valuation problem in terms of: 1) development of a precise statement of the problem and how it relates to the goals of the firm and/or client and in conformance to the Uniform Standards of Professional Appraisal Practice, 2) a consideration of the ethical, policy and/or practical limitations on any proposed solution strategy, 3) statement and consideration of proposed solutions strategies and their implementation, including the application and development of the appropriate approaches to value (cost analysis, sales comparison analysis, and income capitalization analysis — including direct capitalization and yield capitalization) along with a proper reconciliation of these approaches and 4) formulation of a plan for implementation and monitoring of the proposed solution.
- Graduates will be able to analyze the ethical dimensions of a real estate situation and relate those dimensions to professional ethical standards. Specifically, graduates will have an understanding of the Uniform Standards of Professional Appraisal Practice.

**Admission criteria**

Applicants must have an earned baccalaureate degree or its equivalent from an accredited college or university. Other admission requirements include (1) proficiency in using spreadsheet computer software demonstrated either by examination or completion of appropriate course work and (2) minimum of 2.7 GPA at the undergraduate level. A minimum of five years of business experience is preferred. Students are expected to have completed FIRE 431 Advanced Real Estate Appraisal or its equivalent prior to beginning graduate course work.

**Certificate requirements**

In order to be eligible for receiving the certificate, a student must maintain an overall GPA of 3.0. Eighteen credit hours beyond the bachelor's degree is required for completion of this graduate certificate program. A maximum of one three-hour course taken at another AACSB-accredited institution may be transferred into this program. Students interested in later applying for admission into either the Master of Business Administration program with concentration in real estate and urban land development or the Master of Science in Business with concentration in real estate valuation must do so through a separate application process. Admission is dependent on the applicant having achieved a 3.0 GPA in the graduate certificate and a satisfactory score on the GMAT examination.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

<b>Required courses</b>	<b>credits</b>
FIRE 627 Real Estate Development	3
FIRE 628 Using GIS in Real Estate Decisions	3
FIRE 629 Real Estate Investment Analysis	3
FIRE 638 Real Property Investment Law	3
FIRE 658 Real Estate Finance and Investments	3
Plus one of the following courses:	3
FIRE 621 Cases in Financial Management	
MGMT 655 Entrepreneurship	
MKTG 674 Service Quality Management	

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**Taxation, Master of (M.Tax.)****Admission requirements summary**

<b>Taxation, Master of (M.Tax.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Tax.	Admissions have been suspended.	Admissions have been suspended.	GMAT (may be waived for professional track)
<b>Special requirements:</b> Professional track requires documentation of C.P.A. or J.D.			

The Master of Taxation program is designed 1) to offer an opportunity for existing tax professionals to update and expand existing tax knowledge, and 2) to prepare students for entry level positions in the field of taxation. The program includes a comprehensive study of tax laws and regulations, administrative practice and procedure, and tax research fundamentals. It is designed to develop both technical knowledge and conceptual understanding within the field of taxation. Ethical considerations are stressed within the framework of individual courses.

**Admission**

Applicants may be admitted under either a professional or an academic track. The professional track is designed for current tax professionals who want to enhance existing skills. Admission under the professional track requires a minimum undergraduate GPA of 3.0 (on a 4.0 scale); C.P.A., C.M.A. or J.D. designation; a minimum of two years relevant work experience, which should include independent tax research and supervisory experience; letters of recommendation; and a personal interview. The academic track is designed primarily for students seeking entry into the tax field. Admission under the academic track is based on traditional academic indicators designed to reflect an individual's ability to complete graduate study and include the undergraduate record, GMAT score, letters of recommendation and a personal interview (preferred). Once admitted to the program, all students must satisfy the same requirements for award of the Master of Taxation degree. Applications should be completed by:

Fall	Jul 15
Spring	Nov 15
Summer	Mar 15

**Requirements**

Three semester hours of tax accounting and a course in college algebra are prerequisites for the Master of Taxation. Prerequisites need not be completed prior to completing the application to the program.

The program consists of one prerequisite course, three foundation courses and 10 courses distributed over core courses, restricted electives and individual electives. The foundation courses may be waived for students who have taken the equivalent material at the undergraduate level or may be taken at the graduate level after the student has been admitted. A minimum of 30 hours of advanced graduate credit at the 600 level or higher will be required of all students.



**Degree requirements – Master of Taxation**

	credits
<b>Prerequisite course</b>	
ACCT 405 Tax Accounting	3
<b>Foundation courses*</b>	
ACCT 507 Fundamentals of Accounting	3
MGMT 530 Fundamentals of the Legal Environment of Business	3
One course from the following list:	3
ECON 500 Concepts in Economics	
FIRE 520 Concepts of Financial Management	
MGMT 540 Management Theory and Practice	
<b>Advanced courses</b>	
Core area	
ACCT 680 Tax Research	3
ACCT 681 Tax Administration	3
ACCT 682 Corporate Taxation	3
ACCT 685 Taxation of Property Transactions	3
ACCT 688 Estate and Gift Taxation	3
	15
<b>Taxation electives</b>	9
Three courses selected from the following list:	
ACCT 609 State and Local Taxation	
ACCT 679 International Taxation	
ACCT 683 Taxation of Reorganizations	
ACCT 684 Partnership Taxation	
ACCT 686 Taxation of Pension/Deferred Compensation	
ACCT 687 Fiduciary Income Taxation	
ACCT 689 Estate Planning	
<b>Approved electives</b>	6
	30

The approved electives may include:

- Any 600-level taxation course not taken in the advanced courses or selected as a tax elective.
- Any 600-level accounting course except ACCT 608 and 678.
- Any approved 600-level advanced business or economics course.

\* These foundation courses may not be included in the 30 semester credits of advanced work required for the Master of Taxation.

## Department of Accounting

The future development of the accounting profession depends upon the quality of the educational foundation on which it rests. The Department of Accounting is committed to the support of professional accounting through the delivery of educational experiences directed toward practice and through research that addresses the important policy issues of the day.

The mission of the department is to prepare students for careers in accounting, to interpret and expand accounting knowledge, and to render service to the profession and communities. The department does so by:

1. Providing a learning environment in which students are encouraged to interact with others in identifying and solving accounting and business problems.
2. Investigating, developing and sharing knowledge, which has the potential for significant influence on accounting, business and education.
3. Interacting with the accounting profession, the business community and the community at large.

## Administration

**Edward N. Coffman**

Professor and Department Chair

[www.bus.vcu.edu/accounting](http://www.bus.vcu.edu/accounting)

## Accounting courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to accounting ([ACCT](#)) courses.

## Department of Economics

The Department of Economics provides instruction for degree programs at the baccalaureate, master's and doctoral level. The faculty works to develop in students the ability to use economic reasoning to understand and analyze business and economic phenomena and policies — the skills needed for careers in a rapidly changing world. To enhance the educational process and to broaden the frontiers of knowledge, faculty members conduct basic and applied research and provide academic and professional service to the university and professional communities.

## Administration

**Edward L. Millner**

Professor and Department Chair

[www.bus.vcu.edu/economics](http://www.bus.vcu.edu/economics)

## Economics courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to economics ([ECON](#)) courses.

## Department of Finance, Insurance and Real Estate

The Department of Finance, Insurance and Real Estate delivers knowledge to students in all programs offered by the School of Business and contributes to the expansion of knowledge by engaging in scholarly activity. The department provides core courses as well as majors, minors and concentrations. In addition, the department develops and delivers courses in continuing professional education for practitioners seeking to upgrade their skills and/or attempting to achieve professional certification.

### Areas of study

- Finance (refer to the [B.S. in Business](#) concentrations for more information)
- Real estate (refer to the [B.S. in Real Estate](#) and the [post-baccalaureate certificate](#) for more information)
- Financial technology (refer to the [B.S. in Financial Technology](#) for more information)

## Administration

**Nanda K. Rangan**

Professor and Department Chair

[www.bus.vcu.edu/finance](http://www.bus.vcu.edu/finance)

## Finance, insurance and real estate courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to finance, insurance and real estate ([FIRE](#)) courses.

## Department of Information Systems

The Department of Information Systems provides an innovative, high quality curriculum that is recognized nationally and internationally and maintains the ability to rapidly respond to the dynamic, changing needs of the academic discipline, industry and community.

The department offers degree programs at both the undergraduate and graduate level, as well as continuing education programs that support alumni and the community. Additionally, courses in information systems are offered to meet the needs of students in other curricula offered by the university as well as those who are seeking to enhance their knowledge of information systems.

Our faculty offers expertise in information technology and has wide-ranging research and teaching interests. As part of the department, the Information Systems Research Institute provides opportunities for sponsored research, innovative teaching initiatives and faculty development.

## Administration

**Richard T. Redmond**

Associate Professor and Department Chair

[www.isy.vcu.edu](http://www.isy.vcu.edu)

## Information systems courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The Department of Information Systems offers courses in the following areas:

Use this link to see information systems ([INFO](#)) courses.

Use this link to see graduate-level information technology management ([ISTM](#)) courses.

## Computer and Information Systems Security, Master of Science (M.S.)

### Admission requirements summary

Computer and Information Systems Security, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jul 1 Nov 1	GMAT or GRE

The Master of Science in Computer and Information Systems Security, jointly offered by the Department of Computer Science in the School of Engineering and the Department of Information Systems in the School of Business, is designed primarily for students interested in professional roles in business, industry or government. Program graduates will serve as leaders within the computer and information systems security community and as strategic partners within the enterprises in which they work. They will stay attuned to, and anticipate changes in, the computer and information systems security environment and ensure that security solutions create a sound, competitive, cost-effective advantage for the enterprise.

Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices. The program takes a broad interdisciplinary approach to computer and information systems security that will help students develop the ability to see the larger organization, social, political, ethical and economic aspects of information security and offers a unique graduate-level curriculum that is both technically and managerially oriented.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

### Student learning outcomes

Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices.

### Curriculum

The curriculum requires 30 credit hours and is divided into three components, as outlined below.

**Core:** 15 credit hours required of all students and designed to provide a common foundation to the discipline

- CISS 618 Database and Application Security
- CISS/INFO 622 Network and Operating Systems Security
- CISS 624 Applied Cryptography
- CISS 634 Ethical, Social and Legal Issues in Computer and Information Systems Security
- CISS/INFO 644 Principles of Computer and Information Systems Security

**Electives:** 12 credit hours selected from CISS course offerings or, with the approval of program co-directors, from course offered by the Departments of Computer Science, Information Systems, Criminal Justice or Forensic Science

**Practice component:** 3 credit hours, taken near the end of the student's course work, allows the student to apply principles to practice

## Department of Management

The Department of Management offers a variety of baccalaureate-, masters- and doctoral-level degrees and certificate programs. Courses offered include organizational behavior, human resource management, entrepreneurship, international management, strategic management, operations management, organizational communication, and decision sciences.

### Areas of study

- Business administration and management (refer to the [B.S. in Business](#) concentrations for more information)
- Human resource management (refer to the [B.S. in Business](#) concentrations, the [post-baccalaureate certificate](#) and the [minor](#) for more information)
- International management (refer to the [undergraduate certificate program](#))

## Administration

**Jose H. Dula**

Associate Professor and Interim Chair

[www.bus.vcu.edu/management](http://www.bus.vcu.edu/management)

## Management courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to management ([MGMT](#)) courses.

## Department of Marketing

The Department of Marketing provides students with a comprehensive introduction to the many topics and concepts that make up today's marketing professions. Additionally, students have the opportunity to participate in high quality learning experiences that broaden traditional ideas of the classroom in projects, exercises and internship experiences that involve a variety of business organizations as well as state and local government agencies.

## Administration

**Michael W. Little**

Professor and Interim Chair

[www.bus.vcu.edu/marketing](http://www.bus.vcu.edu/marketing)

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## Marketing courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to marketing ([MKTG](#)) courses.



**VCU**

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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Dentistry**

The School of Dentistry was created in 1893 when the University College of Medicine opened with a dental department as one of its original divisions. The Medical College of Virginia inaugurated a dental education program in 1897, and in 1913 the two schools were merged to form the MCV School of Dentistry.

In 1968, by an act of the Virginia General Assembly, MCV was merged with Richmond Professional Institute to form Virginia Commonwealth University. The School of Dentistry is located on VCU's MCV Campus.

The facilities of the School of Dentistry are housed in the Wood Memorial, Lyons and Perkinson buildings and contain clinical facilities, research facilities, classrooms, student laboratories, departmental offices and a computer-learning laboratory.

The school provides opportunities for selected, qualified individuals to study dentistry under the most favorable conditions and in accordance with the standards established by the Commission on Dental Accreditation of the American Dental Association.

The degree of Doctor of Dental Surgery (D.D.S.) is awarded to graduates of the school's professional program and the Bachelor of Science degree to graduates of the Division of Dental Hygiene.

Graduates of the advanced dental education programs in endodontics, orthodontics, pediatric dentistry and periodontics are awarded the Master of Science in Dentistry degree.

## Administration

520 North 12th Street  
P.O. Box 980566  
Richmond, Virginia 23298-0566  
(804) 828-9184  
Fax: (804) 828-6072  
[www.dentistry.vcu.edu](http://www.dentistry.vcu.edu)

**David C. Sarrett**  
Dean

**Carolyn Booker**  
Associate Dean, Student Services

**James C. Burns**  
Associate Dean, Clinical Dental Education

**B. Ellen Byrne**  
Senior Associate Dean

**Laurie C. Carter**  
Director of Advanced Dental Education Programs

**Michael Healy**  
Assistant Dean, Admissions

**Rebecca Pousson**  
Executive Associate Dean

**Harvey A. Schenkein**  
Assistant Dean, Research

## Accreditation

Dental Hygiene (bachelor's degree)  
Commission on Dental Accreditation

Dentistry (D.D.S.)  
Commission on Dental Accreditation

Advanced Dental Education Programs (including Endodontics, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontics, and Advanced Education in General Dentistry)  
Commission on Dental Accreditation

## Mission

The VCU School of Dentistry is a public, urban, research dental school, supported by Virginia to serve the people of the commonwealth and the nation. The school's mission is to provide educational programs that prepare graduates qualified to provide dental care services; generate new knowledge through research and other scholarly activity; and provide quality oral health care to the public and service to the community.

## Philips Institute of Oral and Craniofacial Molecular Biology

**Andrew Yeudall**

Interim Director, The Philips Institute, and Professor of Oral and Craniofacial Molecular Biology and Microbiology and Immunology

The mission of the Philips Institute of Oral and Craniofacial Molecular Biology is to serve the university and the commonwealth of Virginia as a center of educational and research excellence focused on infectious, neoplastic and genetic diseases of the oral cavity, head and neck.

### Dentistry, Doctor of Dental Surgery (D.D.S.)

The Doctor of Dental Surgery is a four-year program in general dentistry leading to the D.D.S. degree and emphasizing study in three broad areas: basic sciences, clinical sciences and social sciences. The academic year begins in July and extends through May.

## Admission requirements

A minimum of 90 semester hours (or equivalent) in an accredited college or university is required and must be documented. Most acceptances have a bachelor's degree and/or four years of college. Required courses are general biology, biochemistry, general chemistry, organic chemistry, physics and English. Laboratory experiences are required for those courses where applicable. Biology courses should emphasize zoology rather than botany. Courses in general microbiology or bacteriology, animal physiology, immunology, histology, genetics, embryology, the behavioral sciences, and courses involving psychomotor skills are strongly recommended. Academic credits presented by an applicant must be acceptable for credit toward a degree in the institution in which the courses are taken. Individuals interested in pursuing a career in dentistry should schedule an appointment in the Office of Admissions for individual guidance.

In order to successfully complete the dental curriculum at VCU, students must meet non-academic criteria for motor, sensory and observation, communication, cognitive and behavioral abilities in the document Technical Standards for Dental Education Programs for VCU School of Dentistry. Accordingly, applicants may be required to prove their proficiency in American English via standardized tests and interviews. An applicant may consider the option of postponing matriculation until such time that he/she can meet these requirements.

Participation in the Dental Admission Test (DAT) of the American Dental Association is required. It is recommended that this test be taken the year before the intended matriculation year. Applicants are encouraged to take the examination more than one time, and the best set of scores is used as the official set. Information about the Dental Admission Test can be obtained from: a) your pre-health advising office of your undergraduate school, b) VCU, School of Dentistry Office of Admissions or c) the American Dental Association, Department of Testing Web site: <http://www.ada.org/prof/ed/testing>.

### Selection factors

VCU is a state-supported, public university and gives admission preference to state residents. All applicants are evaluated by uniform criteria without regard to age, race, color, national origin, gender, religion, sexual orientation, veteran's status, political affiliation or disability. Students are accepted by the Admissions Committee on the basis of excellence of predental education, DAT scores, recommendations, experiences in dentistry and results of personal interviews with members of the committee. The interview process is standardized and designed to determine motivation, knowledge of and interest in the dental profession, and to afford the applicant an opportunity to provide additional information pertaining to his/her application. Selection occurs on a rolling admissions basis, and once the class is complete, an alternate list is created. Members of minority groups underrepresented in dentistry are especially encouraged to apply. Each year a certain number of students who are not accepted into the freshman class are invited to take selected courses with this class. Their performance in these courses plays a vital role in their being considered for the following year's admissions process.

### Admission with advanced standing

The School of Dentistry will consider applicants for admission with advanced standing on an individual basis depending upon positions available and



qualifications of the applicant. Pre-admission evaluation of skills and knowledge by performance testing is required prior to admission consideration.

## Application procedures

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applicants are required to submit credentials through this service. Re-applicants must also reapply through the application service. Application forms can be obtained from AADSAS, 1400 K St. N.W., Suite 1100, Washington, D.C. 20005 (e-mail to [aadsas.appl@adea.org](mailto:aadsas.appl@adea.org) or call (202) 289-7204, preadmission advisers in colleges and universities, and the Office of Admissions, School of Dentistry, Virginia Commonwealth University, P.O. Box 980566, Richmond, VA 23298-0566.

Application to the School of Dentistry can be made through AADSAS on or after May 15 and must be received by AADSAS no later than Nov. 1 of the year preceding intended matriculation.

AADSAS compiles academic records and other pertinent information and forwards these with the application to the School of Dentistry. Qualified applicants are then requested to submit supplemental information, such as the VCU supplemental application. The application fee is \$70.

Applicants will be notified of decisions according to guidelines established by the American Association of Dental Schools. The first acceptances are sent out on Dec. 1, and a \$500 deposit (credited to tuition) is required by Jan. 15. After Feb. 1, the deposit must be received within two weeks following notification of acceptance. A second deposit of \$300 credited to tuition is due on May 1. Both deposits are nonrefundable.

A letter of acceptance offers the candidate a position in the class entering for the session cited. Receipt by the Office of Admissions of the initial \$500 nonrefundable tuition deposit within the prescribed period reserves the position in the class. Failure to reserve a position results in that position being offered to another candidate. A second \$300 nonrefundable tuition deposit initiates active administrative processing of matriculation into the first-year class. Failure to send this deposit results in loss of position, and the position is then offered to another candidate. The act of matriculation also implies a willingness on the part of the student to comply with university rules and regulations, to take an interest in maintaining the ideals of the institution and to conduct himself/herself in a manner befitting a member of the dental profession.

For more information please visit the School of Dentistry Web site at [www.dentistry.vcu.edu](http://www.dentistry.vcu.edu).

## Financial assistance

A general description of financial aid based on demonstrated need is contained in the Professional Studies at VCU chapter of this bulletin. Financial need-based aid programs available to dental students include Health Professions Student Loans, Loans for Disadvantaged Students, Virginia Rural Dental Scholarship Program, and federal educational loans. Further information may be obtained from the offices of Admissions, Financial Aid and Student Affairs of the School of Dentistry.

## Student learning outcomes

D.D.S. students will demonstrate the mastery of an in-depth study of human anatomy, genetics, material science, microbiology, pathology, pharmacology and physiology; the actual practice of dentistry; exposure to specialties; dental health needs; system of health care delivery; practice management; professional ethics; and behavioral factors. Laboratory, clinical experiences are required throughout four years to develop skills and judgment vital to the practice of general dentistry.

## Curriculum

The curriculum in the dental school is organized into a competency-based, four-year program leading to the Doctor of Dental Surgery (D.D.S.) degree. The academic year begins in July and extends through June. The program emphasizes study in three broad areas: biomedical sciences, clinical sciences and behavioral sciences.

The biomedical sciences include the in-depth study of human anatomy, genetics, material science, microbiology, pathology, pharmacology and physiology.

The clinical sciences prepare the student for the actual practice of dentistry and provide exposure to the various specialties in dentistry.

The behavioral sciences cover such topics as dental health needs, the system of health care delivery, practice management, professional ethics and behavioral factors.

Laboratory and clinical experiences are offered throughout the four years to develop the skills and judgment vital to the practice of general dentistry.

In general, courses offered as part of the curriculum in dentistry are not available to other students in the university. Exceptions may be granted by the dean of the School of Dentistry to students enrolled in graduate degree programs upon written request of the department chair in which the student is seeking a degree.

	Credits
<b>Freshman, first semester</b>	
ANAT 501 Dental Gross Anatomy	6.5
ANAT 503 Dental Neuroanatomy	1.0
DENS 515 Clinical Skills I	1.0
DENS 540 Dental Practice Management I	1.0
GENP 511 Oral Anatomy and Occlusion	4.0
GENP 512 Operative Dentistry*	--
MICR 513 Infection and Immunity in Dentistry	4.0
OCMB 510 Evidence-based Dentistry	1.0
PERI 525 Periodontics I	1.0
<b>Total</b>	<b>19.5</b>
<b>Freshman, second semester</b>	
ANAT 502 Microscopic Anatomy	5.0
DENS 516 Clinical Skills II	3.0
DENS 524 Review of Literature in Dentistry	1.0
GENP 512 Operative Dentistry	10.0
GENP 514 Fundamentals of Occlusion	2.0
PATH 601 General Pathology	6.0
PERI 526 Periodontics II	3.5
PHIS 502 Physiology and Pathophysiology (Dentistry)	5.0
<b>Total</b>	<b>35.5</b>
<b>Sophomore, first semester</b>	
DENS 619 Review of Literature in Dentistry II	1.0
DENS 621 Occlusion	2.0
DENS 625 Clinical Skills III	5.0
DENS 640 Dental Practice Management II	1.0
GENP 620 Cariology	2.0
ORPT 621 Dental Radiology	1.0
ORPT 622 Oral Pathology*	--
ORTH 623 Principles of Orthodontics	2.0
PHTX 609 Dental Pharmacology and Pain Control*	--
PROS 622 Preclinical Fixed Prosthodontics*	--
PROS 624 Preclinical Removable Denture Prosthodontics*	--
<b>Total</b>	<b>14.0</b>
<b>Sophomore, second semester</b>	
DENS 611 Introduction to Professionalism	1.0
DENS 623 Clinical Skills IV	7.0
DENS 628 Review of Dental Literature	1.0
ENDO 622 Principles of Endodontics	2.5
HGEN 631 Advanced Dental Genetics	1.0
ORPT 622 Oral Pathology	3.0
ORSG 622 Introduction to Oral Surgery	1.0
PEDD 622 Introduction to Pediatric Dentistry	2.0
PHTX 609 Dental Pharmacology and Pain Control	4.0
PROS 622 Preclinical Fixed Prosthodontics	6.0
PROS 624 Preclinical Removable Prosthodontics	6.0
PROS 626 Preclinical Dental Implantology	2.0
<b>Total</b>	<b>36.5</b>
<b>Junior, first semester</b>	
DENS 730 Practice Management III	1.0
DENS 735 Patient Management and Professional Conduct	3.0

DENS 736 Review of Literature IV: Assessment of Patients With Special Needs*	--
ENDO 731 Endodontic Therapy	1.0
ENDO 739 Clinical Endodontics III*	--
GENP 739 Clinical Operative III*	--
ORPT 737 Radiology Rotation*	--
ORSG 731 Medical Management and Emergency Care for the Dental Patient	2.0
ORSG 739 Clinical Oral Surgery III*	--
ORTH 739 Clinical Orthodontics III*	--
PEDD 733 Advanced Pediatric Dentistry	1.0
PEDD 739 Clinical Pediatric Dentistry III*	--
PERI 733 Periodontics III	1.0
PERI 739 Clinical Periodontics III*	--
PHTX 611 Dental Pharmacology and Pain Control	2.0
PROS 731 Complete Denture Prosthodontics	1.5
PROS 735.01 Removable Prosthodontics Diagnosis and Treatment	1.5
PROS 739 Clinical Removable Prosthodontics III*	--
PROS 739 Clinical Fixed Prosthodontics III*	--
<b>Total</b>	<b>14.0</b>
<b>Junior, second semester</b>	
DENS 735 Patient Management and Professional Conduct	3.0
DENS 736 Review of Dental Literature	1.0
ENDO 739 Clinical Endodontics III	1.5
GENP 739 Clinical Operative III	5.0
GENP 742 Treatment Planning Seminar	2.0
ORPT 732 Clinical Oral Pathology and Oral Medicine	1.0
ORPT 737 Radiology Rotation**	--
ORSG 733 Principles of Oral and Maxillofacial Surgery	1.5
ORSG 739 Clinical Oral Surgery III	1.5
ORTH 733 Orthodontic Therapy	1.0
ORTH 739 Clinical Orthodontics III	1.0
PEDD 739 Clinical Pediatric Dentistry III	2.0
PERI 739 Clinical Periodontics III	5.0
PROS 739 Clinical Removable Prosthodontics III	3.5
PROS 739 Clinical Fixed Prosthodontics III	2.0
<b>Total</b>	<b>31.0</b>
<b>Senior, first semester</b>	
DENS 740 Practice Management IV	1.0
DENS 745 Patient Management and Professional Conduct	3.0
DENS 752 Clinical General Practice Dentistry*	--
DENS 762 Service Learning	--
ORPT 747 Radiology Rotation (continuation of ORPT 737)	1.5
ORSG 749 Oral Surgery/Urgent Care Clinic*	--
PEDD 749 Clinical Pediatric Dentistry IV*	--
<b>Total</b>	<b>5.5</b>
<b>Senior, second semester</b>	
DENS 745 Patient Management and Professional Conduct	3.0
DENS 752 Clinical General Practice Dentistry	24.0
DENS 762 Service Learning	6.0
ORSG 749 Oral Surgery/Urgent Care Clinic	2.0
PEDD 749 Clinical Pediatric Dentistry IV	2.0
<b>Total</b>	<b>37.0</b>
<b>Program total</b>	<b>193.0</b>

\* Continues into second semester.

\*\* Completed first semester senior year.

## Academic performance evaluation

The faculty of the VCU School of Dentistry has the responsibility for evaluating the student's academic performance. It is incumbent on the course directors or their designees to specify, at the time that courses first convene, the criteria to be used in student assessment and the standards by which they will be judged.

The VCU School of Dentistry Guidelines for the Evaluation of Student Performance and Academic Status are distributed to all students at the beginning of their study. They are available upon request from the Office of Academic Affairs, School of Dentistry.

## Advanced Dental Education

**Martha C. Clements**

Director, Continuing Education

## Office of Continuing Education

For every professional person who serves the health sciences, education must be a lifetime commitment.

Graduation from dental school is the beginning of a lifelong educational experience for the serious, conscientious student of dentistry. Regardless of how well prepared a health professional may be at the time of graduation, the adequate knowledge of yesterday is often insufficient information for today and tomorrow. With the rapid advancements made in dental technology and techniques, the professional must constantly seek new knowledge if the health care provider is to improve the health care given to patients.

Although the majority of continuing education courses are presented at the School of Dentistry, some are offered in other locations. The courses, which vary in length from one to four days, are scheduled throughout the year and consist of a variety of instructional methods from didactic to hands-on participation in clinical programs.

The instructional staff is comprised of faculty from the VCU School of Dentistry, guest lecturers from other dental schools, and members of the dental profession and related professions from the United States and other countries.

## Advanced Dental Education programs

The School of Dentistry provides advanced dental education programs in the areas of endodontics, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontics, and advanced education in general dentistry (AEGD). Satisfactory completion of the program leads to the award of a certificate of training and certifies eligibility for examination by the appropriate specialty board. All programs are accredited by the Commission on Dental Accreditation of the American Dental Association. Those enrolled in the advanced education programs are full-time resident trainees, considered to be the equivalent of full-time students. Under special circumstances, trainees may be accepted into some programs on a part-time basis.

Students enrolling in endodontics, orthodontics, pediatric dentistry and periodontics also are awarded a Master of Science in Dentistry degree upon completion of the requirements for the certificate and successful defense of a thesis. The certificate program and Master of Science in Dentistry degree must be completed concurrently. See the School of Dentistry Graduate Program for more information on the Master of Science in Dentistry degree program.

Applications for admission should be directed to the director of the appropriate program, School of Dentistry, Virginia Commonwealth University, P.O. Box 980566, Richmond, VA 23298-0566. Successful completion of Part II of the National Board Dental Examination is required prior to admittance to the program.

## Advanced Education in General Dentistry

**Debra Haselton**

Professor and Program Director

The purpose of this 12-month Advanced Dental Education residency program is to provide advanced education and clinical experience to prepare dental school graduates for a career in the practice of comprehensive, general dentistry. This program has a strong emphasis on treatment planning, experience with new technology, developing skills in aesthetic dentistry and restoration of dental implants. Graduates of this program will have attained added competency and confidence in all areas of dental care, practice management and professional responsibility. Further, this program provides residents with meaningful experiences in the delivery of dental care to diverse populations and people at high risk for dental disease. A strong affiliation exists between the School of Dentistry and the statewide Virginia Area Health Education Center (AHEC), whose mission is to increase primary health care in underserved areas. The AEGD program works in concert with AHEC to deliver dental care and recruit/train minority health care providers from health professional shortage areas.

The School of Dentistry is committed to advanced dental education. The residents will receive hands-on experience with diagnostic and therapeutic care of special patient populations in addition to extensive training in the art and science of general dentistry. AEGD residents may be required to participate in off-site clinical experiences outside the city of Richmond, Va. Funds will be provided for travel and lodging when required.

#### Eligibility and selection

Dentists with the following qualifications are eligible to apply for the AEGD program: Dental graduates from institutions in the United States accredited by the Commission on Dental Accreditation of the American Dental Association and who have passed Part I of the National Board Examination.

Selection criteria include: didactic and clinical achievements, extramural experience, interpersonal skills and a demonstrated commitment to pursue a career in general dentistry. Every effort is made to recruit qualified applications from minority dentists and dentists from health professional shortage areas or dentists who profess a desire to serve in these areas. A selection committee consisting of the program director, the assistant dean for admissions, members from specialty areas, former residents and current residents will screen all applications. Using the above-mentioned selection criteria, the most promising applicants will be invited for personal interviews. Trainees and alternates will be selected. This program participates in the Postdoctoral Application Support Service Program. Telephone (804) 828-3601; fax (804) 828-3159; e-mail [drhaselton@vcu.edu](mailto:drhaselton@vcu.edu).

### Endodontics

#### Karan Replogle

Professor and Department Chair, Endodontics

The Advanced Dental Education Program in Endodontics offers the student a comprehensive 24-month course of study in clinical, didactic and research endodontics. The program is designed to educate qualified individuals to pursue careers as educators, researchers and practicing clinicians, and meets the educational requirements for limitation of practice to the specialty of endodontics and examination by the American Board of Endodontics. The program is composed of several interrelated phases. The first phase consists of lecture courses that provide the student with a firm biological basis for patient care. The second phase consists of lectures, seminars and clinical training designed to produce clinical mastery of endodontics. The third phase is research experience gained through completion of an individual research project and master's thesis.

Students completing the program earn a specialty certificate in endodontics and a Master of Science in Dentistry degree. Students must complete the requirements for the master's degree prior to being awarded the specialty certificate.

The program conforms to the Standards for Advanced Specialty Education in Endodontics and carries a full approval status from the Commission on Dental Accreditation of the American Dental Association.

### Oral and Maxillofacial Surgery

#### Robert A. Strauss

Professor and Program Director

The oral and maxillofacial surgery program is designed to provide extensive didactic and clinical experience in all aspects of the specialty. Those who complete training satisfactorily fulfill the prerequisites for examination and certification by the American Board of Oral and Maxillofacial Surgery.

The didactic portion of the program includes formal courses in oral pathology, anatomy and physical diagnosis, as well as numerous weekly conferences and seminars. Clinical rotations on oral pathology, anesthesia, medicine, surgical oncology, neurosurgery, cardiology, general surgery, emergency room and the trauma services are used to supplement the trainee's surgical experience. Throughout the program there is a constant correlation of the clinical experience with the biomedical sciences.

Through the multiple clinical and didactic facilities of the VCU Medical Center complex, the McGuire Veterans Affairs Medical Center, and St. Mary's Hospital, there is ample material for education in the latest oral and maxillofacial surgical techniques. The oral and maxillofacial surgery service is responsible for diagnosis and management of diseases and injuries related to the oral and facial region. Trainees are involved in all aspects of treatment including simple and complicated oral surgery, anesthesia and pain control, oral and maxillofacial trauma, preprosthetic surgery, orthognathic surgery, head and neck pathology, oral and maxillofacial reconstruction, temporomandibular joint surgery, laser surgery,

cosmetic facial surgery, and microneural and microvascular surgery. During the four years, the trainee assumes ever-increasing responsibilities as time and abilities dictate.

Upon satisfactory completion of the four-year residency, the trainee may earn the Doctor of Medicine degree from the School of Medicine by enrolling in the second and third years of that curriculum.

### Orthodontics

#### Bhavna Shroff

Professor and Program Director

The Department of Orthodontics at VCU's MCV Campus offers a 24-month advanced education in orthodontics and Master of Science in Dentistry program. The program teaches state-of-the-art clinical care in an environment modeled after private orthodontic practice. The curriculum is composed of seminars and small-group instruction with emphasis on critical thinking and problem solving. Contemporary concepts of orthodontic treatment are reviewed for substantive and scientific content. Also included are regularly scheduled orthognathic surgery conferences and seminars with other dental and medical specialists.

The postgraduate program is designed to develop skilled practitioners who are prepared to grow with the future and manage busy orthodontic practices. The goal is not only to familiarize future orthodontists with contemporary techniques but also to teach them how to interpret cutting-edge scientific information and use it to approach clinical challenges logically and practically. Clinical experience consists of a wide variety of orthodontic patients, including complex cases requiring orthognathic surgery and patients with facial clefts and other craniofacial abnormalities. An original research experience is an integral part of the program, with each project intended to produce results suitable for publication in a nationally circulated orthodontic journal. The successful completion of a research project is a requirement of the program. All senior residents present their research at the Virginia Association of Orthodontists meeting. The program qualifies students to take the written portion of the American Board of Orthodontics examination in the senior year. Residents are required to take the written portion of the American Board of Orthodontics examination prior to graduation, and are encouraged to continue and complete the board certification process. This exam is given prior to the American Association of Orthodontists meeting.

Students completing the program earn a specialty certificate in orthodontics and Master of Science in Dentistry degree. Students must complete the requirements for the master's degree prior to being awarded the specialty certificate.

The program is accredited by the Commission on Dental Accreditation of the American Dental Association.

### Pediatric Dentistry

#### John H. Unkel

Associate Professor and Program Director

The Advanced Education Program in Pediatric Dentistry offers the student a comprehensive 24-month course of study in clinical and didactic pediatric dentistry. The program is designed to meet the educational requirements for limitation of practice to the specialty of pediatric dentistry and examination by the American Board of Pediatric Dentistry. The program emphasizes a diversified educational experience. The program places emphasis on all phases of pediatric dentistry including trauma, preventive dentistry, restorative, endodontics, periodontics, oral surgery, orthodontics and hospital dentistry. The program enables the student to provide comprehensive oral health care for the well child, the medically compromised and children with special needs. There is extensive use of various treatment modalities for pain control and behavioral management, such as sedation, analgesia and general anesthesia. Research experience is gained through completion of an individual research project and master's thesis.

Seminars are held in pediatric dentistry, orthodontic diagnosis and treatment, treatment planning, growth and development, cephalometric analysis, pediatric dentistry literature review, and behavior guidance. Formal courses in biostatistics, principles of pediatrics, pediatric advanced life support, head and neck anatomy, neurodevelopmental disabilities, leadership seminars, basic sciences, and clinical core courses are required. The students participate in undergraduate clinical teaching and supervision.

One-month rotations occur in general anesthesia, and two-week rotations occur in the pediatric emergency room and pediatric medicine. During the year, rotations in cleft palate, craniofacial anomalies and hemophilia occur. Optional elective

rotations are available in treating institutionalized handicapped patients (in Lynchburg). Elective didactic courses also are available.

Students completing the program earn a specialty certificate in pediatric dentistry and a Master of Science in Dentistry degree. Students must complete the requirements for the master's degree prior to being awarded the specialty certificate.

The program is accredited by the Commission on Dental Accreditation of the American Dental Association.

## Periodontics

**Thomas C. Waldrop**

Professor and Program Director

The advanced education program in periodontics consists of a 36-month clinical and didactic curriculum leading to a certificate in periodontics. Students are responsible for all materials and make up of lost clinical time. Courses in the basic and clinical sciences, medicine, head and neck anatomy, statistics, and advanced cardiac life support are required. Students are responsible for attending and preparing for lectures, current and periodontal literature, medical-oral medicine, treatment planning, case presentation, and surgical seminars. No grade less than 80 percent or passing is acceptable from any periodontal or basic science course work. Less than passing grades may require retesting or retaking of a course. Students are expected to be able to utilize a computer to prepare lectures and to access Internet resources.

Students are responsible for documentation of clinical and course work data. Specified digital intra-oral camera and documentation of all clinical cases and department archiving is required. Students are responsible to the service for rotations in general medicine, dental anesthesiology and oral pathology. Proficiency and certification in intravenous conscious sedation is required. Students are responsible for clinical and classroom teaching to undergraduate and specialty students. Research on a topic that is reviewed and approved by a faculty committee is required. Upon completion of the research, the student is required to prepare a thesis, defense and manuscript for publication. Certificates are not awarded until completion of the Master of Science in Dentistry requirements. Students are responsible for the purchase of program-required equipment, instruments, books and all associated fees. All students are required to become student members of the American Academy of Periodontology.

## Combined Master of Science (M.S.)/Doctor of Philosophy (Ph.D.) and Doctor of Dental Surgery (D.D.S.)

In cooperation with the School of Dentistry, students in dentistry with an interest in academic and research careers are afforded the opportunity to undergo advanced degree training while in dental school or residency. Admission of students enrolled in the School of Dentistry to combined degree programs is processed through the Office of Graduate Education of the School of Medicine by established procedures. The Dental Aptitude Test may be accepted in lieu of the GRE as an admission requirement. No application fee is required of students already regularly enrolled as degree-seeking graduate students at the university.

The requirements for a combined professional school/graduate school degree in basic health sciences are equivalent to those required of students seeking a graduate degree alone and are determined by the individual departments.

### Dentistry, Master of Science in (M.S.D.)

#### Admission requirements summary

##### Dentistry, Master of Science in (M.S.D.)

Indicate specialization:

The master's degree program is offered concurrently with the advanced dental education programs in endodontics, orthodontics, pediatric dentistry and periodontics. Students completing these programs are awarded a specialty certificate and a Master of Science in Dentistry (M.S.D.) degree. The certificate and degree programs must be completed concurrently.

Applications for admission should be directed to the director of the appropriate program, School of Dentistry, Virginia Commonwealth University, P.O. Box 980566, Richmond, VA 23298-0566. Successful completion of Part II of the National Board Dental Examination is required prior to admittance to the program.

For more information on these advanced dental education programs see the School of Dentistry Advanced Dental Education programs section of this bulletin.

#### Student learning outcomes

Master of Science in Dentistry students will demonstrate:

- Successful completion of didactic curriculum and clinical experience in clinical specialty areas in order to qualify concurrently for the Master of Science in Dentistry and corresponding specialty certificate
- Education as qualified individuals who can pursue careers as teachers, researchers and practicing clinical specialists
- Preparation as skilled practitioners who can interpret cutting-edge scientific information and use it to approach clinical challenges logically and practically and who can provide comprehensive state-of-the-art specialized dental care in their areas of expertise
- Initiation, development and completion of an original scientific study and successful defense of thesis
- Preparation for appropriate board certification process
- Ability to contribute to the profession through research and service

## Admission requirements

Students must first be accepted into one of the advanced dental education programs in endodontics, orthodontics, pediatric dentistry or periodontics. Once accepted, students are automatically enrolled in the master's degree program in the Graduate School. A separate application and fee are required for admission to the Graduate School.

## Degree requirements

1. The student must complete all course work for the particular advanced dental education program.
2. The student must initiate, develop and complete an original scientific study.
3. The student must complete a thesis according to the Graduate School's guidelines.
4. The student must pass the final defense of the thesis.
5. The student must maintain a cumulative GPA of 3.0.

## Thesis adviser and committee

Students receive guidance and counsel from the director of their program. The program director holds primary responsibility for monitoring the development of the student in the program and providing appropriate guidance and counsel essential to the scholarly development of the student.

A thesis advisory committee, appointed shortly after the student enrolls, serves as both an examining and consultative body, functioning to assist the student with development of their research.

Each student shall have a thesis adviser and advisory committee. In many cases, the program director also will serve as the thesis adviser.

The student's thesis adviser shall be appointed by the program director. The adviser must be a member of the regular graduate faculty (not affiliate). Appointment should be made by the beginning of the spring semester of the first year.

The adviser shall, with the student's advisory committee, have responsibility for guiding the student's research. The adviser will identify members of the faculty to comprise the advisory committee. The adviser will serve as the chair of the committee. The adviser will supervise the student's research work and thesis preparation and be one of the examiners of the thesis defense.

The student's advisory committee shall be appointed no later than the midpoint of the spring semester of the first year. Exceptions to this rule must be approved by the program director and thesis adviser. The committee shall consist of a minimum of three members as follows: the student's thesis adviser; two members from the graduate faculty, one of which must be from the department/program. Adjunct faculty can be appointed to the graduate faculty as an affiliate member for the purpose of serving on an individual student's advisory committee.

The advisory committee functions as an advisory body to ensure that timely progress toward completion of the thesis is being achieved. It is the student's responsibility to stay in contact and meet regularly with the committee. The

advisory committee serves as a scientific consultative body and conducts the final examination of the thesis work.

## Endodontics

### Admission requirements summary

Endodontics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall	Sep 15	NBDE

## Orthodontics

### Admission requirements summary

Orthodontics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall	Sep 15	NBDE

## Pediatric dentistry

### Admission requirements summary

Pediatric dentistry			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall	Oct 1	NBDE

## Periodontics

### Admission requirements summary

Periodontics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall	Sep 1	NBDE





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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Education**

The primary objective of the Virginia Commonwealth University School of Education is to prepare students for careers in education, government, health-related professions, recreation and research. All programs combine comprehensive studies in the liberal arts and sciences with professional preparation and concentration in specialized fields of study. Practical applications and field experiences are an integral part of each academic program. The School of Education is committed to preparing high-quality professionals for service in urban, suburban and rural areas.

## Administration

1015 West Main Street  
P.O. Box 842020  
Richmond, Virginia 23284-2020  
(804) 828-3382  
Fax: (804) 828-1323  
[www.soe.vcu.edu](http://www.soe.vcu.edu)

**Christine S. Walther-Thomas**  
Professor and Dean

**Henry T. Clark III**  
Professor and Senior Associate Dean for Academic Affairs

**Diane J. Simon**  
Associate Professor and Associate Dean for Student Affairs

## Accreditation

### Education (all degrees)

National Council for Accreditation of Teacher Education (initial licensure and advanced degrees for school personnel), the Virginia Department of Education and the Southern Association of Colleges and Schools.

### Counselor education

Accredited by the Council on Accreditation of Counseling and Related Educational Programs

This accreditation applies to both the K-12 school counseling track and the college student development and counseling track.

The school holds membership in the American and Virginia Association of Colleges of Teacher Education and in the Holmes Partnership.

## Values statement

The VCU School of Education is dedicated to the preparation of professional educators and clinicians, the ideals of academic scholarship, and the worthiness of service. Through our work in these areas, we recognize our responsibilities to students, university colleagues, the community at large, and professional organizations. While all of us share common values, the statements below intentionally allow for a variety of interpretations that may be influenced by our assignments, our experiences, and our philosophical principles within programs and across the School of Education.

The school demonstrates its belief in the value of high quality programs by:

- Attracting high quality students.
- Being responsive to the external standards of accrediting and professional organizations.
- Providing meaningful clinical placements.
- Continually evaluating, assessing and improving programs and services.

The school demonstrates its belief in the value of high quality teaching by:

- Creating an environment that supports student success.
- Demonstrating a variety of effective teaching strategies, including technology integration, universal design for learning and student-centered instruction.
- Fostering curriculum development that ensures familiarity with best practice across all disciplines.

The school demonstrates its belief in the value of diversity by:

- Preparing students to work in culturally and linguistically diverse settings.
- Accommodating students with special learning needs.

- Promoting a diverse student and faculty community.
- Supporting intellectual curiosity.
- Modeling and promoting social justice.

The school demonstrates its belief in the value of high quality scholarship and, in particular, the value of research culture by:

- Conducting relevant, high quality research that is responsive to the metropolitan community and contributes to the disciplines.
- Encouraging collaborative research with colleagues, practitioners and students.
- Supporting the creation, interpretation and dissemination of knowledge.
- Integrating current research into teaching.

The school demonstrates its belief in the value of collaboration and partnerships by:

- Serving as a resource for the development of policy, curriculum, instructional practice and professional standards.
- Providing leadership and professional outreach to organizations, the university and the community at large.
- Maintaining partnerships and shared responsibility for professional preparation.

The school demonstrates its belief in the value of critical reflection by:

- Observing ethical practice and professional honesty.
- Encouraging students to exhibit dispositions consistent with accepted professional practice.
- Fostering a trusting, safe community of scholars.
- Engaging in ongoing professional development.
- Examining professional practices.

## Educator as critically reflective practitioner

The guiding theme of educator preparation programs in the School of Education is educator as critically reflective practitioner. Courses and experiences provide opportunities for individuals to consider means of building on appropriate knowledge to make instructional, assessment, counseling and leadership decisions.

## Organization

The chief administrative office for the School of Education is the Office of the Dean, Room 2090 Oliver Hall. Two associate deans assist in the administrative functions of the school. The associate dean for academic affairs is responsible for the school's Office of Assessment and Technology Services, is responsible for all academic programs offered by the school, assists each department in the administration of the various degree programs and handles administrative areas related to admission, matriculation, graduation and special actions and appeals for graduate students. The associate dean for student affairs is responsible for the school's student services offices and handles the administrative areas related to admissions, matriculation, student appeals and graduation applications for undergraduate students.

The school is organized for the management of instruction and degree programs into six departments: Counselor Education, Educational Leadership, Foundations of Education, Health and Human Performance, Special Education and Disability Policy, and Teaching and Learning. Four of the departments offer undergraduate course work or programs that lead to an undergraduate degree and/or a Master of Teaching (M.T.) degree:

- Foundations of Education
- Health and Human Performance
- Special Education and Disability Policy
- Teaching and Learning

Two departments offer graduate degrees only:

- Counselor Education
- Educational Leadership

## Facilities

The School of Education is housed primarily in Oliver Hall, where classroom, laboratory and activity centers, and faculty and administrative offices can be found. Clinical laboratories are located at 3600 W. Broad St.

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## Support/resource offices

The School of Education has developed various resources to provide support services to students, faculty and the academic programs. These resources are the Office of Student Services, the Office of Continuing Education and the Instructional Technology Center, which houses state-of-the-art computer laboratories.

### Student Services Center

Basic information on the degree programs in the School of Education, as well as forms needed by students as they advance through the programs, are available in the Student Services Center, located on the third floor of Oliver Hall. Students enrolling in the B.S. program can arrange an appointment with undergraduate advising on the first floor of Oliver Hall.

The Office of Student Services in Oliver Hall receives and processes various School of Education application forms and supplies information on the Praxis I examination, Praxis II specialty area tests, Graduate Record Examination and the Miller Analogies Test. For information on student performance on the Praxis examinations, refer to the School of Education Web site at [www.soe.vcu.edu/ssc/faq.htm](http://www.soe.vcu.edu/ssc/faq.htm).

This office coordinates clinical placements for students in practica, student teaching, internships and externships. Student teachers and graduate intern teachers are placed in school divisions and other educational facilities in the greater Richmond metropolitan area. Students in non-teacher education programs are placed in practica and clinical experiences through the coordinator of undergraduate advising. Placements are secured in schools, agencies, clinics and hospitals in the greater Richmond metropolitan area. Every effort is made to place students in clinical experiences relevant to their intended career path.

Applications and information on scholarships available to School of Education students can be obtained at the Student Services Center. Information on financial aid administered by the university is found in the appropriate level of "Expenses and Financial Aid" sections of this bulletin.

Licensure and endorsement information, materials and applications for Virginia education personnel are available in the Student Services Center. Licensure and endorsement are based, in part, on the successful completion of an approved program that complies with national standards.

For more information about this center, visit [www.soe.vcu.edu/ssc](http://www.soe.vcu.edu/ssc).

### Instructional Technology Center

The Instructional Technology Center, a multimedia facility, is used by faculty and students in the School of Education. The center houses microcomputers with sophisticated graphics capabilities, educational software and many similar resources for the development of instructional materials. It also provides access to the School of Education's Local Area Network, VCU Libraries, the Internet and the Web.

### Computer laboratories

The Instructional Laboratory, housed in the Instructional Technology Center, gives students many opportunities to learn about computer-assisted instruction in the classroom setting. It also lends support to students enrolled in the computer science basic literacy course and other technology courses offered by the school. The laboratory equipment includes Macintosh and IBM-compatible multimedia computers. Laptop computers, laser printers, color laser printers and scanners also are available.

The INFUSIO Distance Learning Technology Laboratory, also housed in the Instructional Technology Center, is a new technology facility designed to provide assistance to faculty, preservice teachers and associates in the School of Education. The lab presently houses a Polycom two-way video conferencing system, interactive Smart and Softboards, and Mimeo digital meeting assistant technology for electronic note taking. There are several high-end multimedia PC stations and a Macintosh computer with a variety of the latest software programs. Computers are equipped with headphones, microphones and digital cams for use in audio and video recording. The INFUSIO Lab includes a number of assistive technologies designed to enhance the concept of universal learning.

A university computer laboratory open to all students is housed in Oliver Hall. The laboratory is equipped with 24 IBM- and Mac-compatible computers that permit students to access the Internet and MS Office software.

### Office of Graduate Studies

The Office of Graduate Studies is responsible for the administration of graduate education from admission through graduation, for master's, doctoral and certificate students. Refer to the Ph.D. in Education section of the bulletin for further information on doctoral programs.

### Center for Professional Growth

The Center for Professional Growth is the contact for conducting School of Education off-campus related degree cohort programs, courses for credit and other professional development in-service workshops. Many off-campus partnerships and grant-funded projects also are coordinated and managed. The major emphasis is serving the community of K-12 administrators, teachers and staff in Central Virginia. Additionally, distance learning using various forms of technologies is being developed and offered by this office.

### Centers and institutes

Programs, resources and scholarly and service endeavors of the school are extended by a number of academies, centers, institutes and programs directed by the faculty. These include:

- Behavioral Intervention Program
- Career Connections Techlink
- Center for School-Community Collaboration
- Center for School Improvement
- Center for Sport Leadership
- Central Virginia Leadership Academy
- Metropolitan Educational Research Consortium
- Metropolitan Educational Training Alliance
- Partnership for Persons with Disabilities
- Professional Opportunities for Developing Excellent Teachers:
  - English Second Language
- Rehabilitation Research and Training Center
- Training and Technical Assistance Center
- Virginia Adult Learning Resource Center

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## Licensure and reciprocity

Upon completion of degree requirements in any of VCU's teacher preparation programs and with the recommendation of the School of Education, students are eligible to receive initial teacher licensure from the Virginia Department of Education. For additional information on licensure, licensure renewal or an add-on endorsement, contact the School of Education's Student Services Center.

In Virginia, initial licensure requires successful completion of state-mandated tests. Passing scores on these tests are required to progress through different portions of the licensure programs from admission to teacher preparation, admission to student teaching and recommendation for licensure. For a list of testing requirements, please refer to the School of Education website at [www.soe.vcu.edu/ssc](http://www.soe.vcu.edu/ssc).

Students should request that their Praxis I and Praxis II specialty area test scores be reported to VCU and the Virginia Department of Education.

Before a recommendation for licensure can be sent to the Teacher Licensure Division of the Virginia Department of Education, these test scores must be on file with the School of Education's Student Services Center.

### Licensure for education personnel

Licensure and endorsement are based in part on the successful completion of an approved program developed in response to nationally recognized standards. All licensure and endorsement programs offered by the School of Education are approved by the Virginia Department of Education and the National Council for the Accreditation of Teacher Education. The commonwealth of Virginia is a member of the National Association of State Directors of Teacher Education and Certification, which has a national reciprocity agreement for teacher licensure. Therefore, all licensure and endorsement programs in the School of Education have approved program status and are a part of the NASDTEC Certification Reciprocity Agreement. Information about VCU students' performance on the

state-mandated licensure tests (Praxis I Reading, Writing and Mathematics, Praxis II Specialty Area Tests, and other required assessments) is available on the School of Education Web site: [www.soe.vcu.edu/ssc](http://www.soe.vcu.edu/ssc).

## Graduate programs leading to initial teacher licensure

Individuals often decide to pursue a teaching career after they have completed a baccalaureate degree. VCU serves qualified individuals through approved programs leading to a Master of Teaching, Master of Education (special education) or a Post-baccalaureate Certificate in Teaching. Upon completion of a degree program, graduates are eligible for both Virginia licensure and/or endorsement in the specific degree area.

Students seeking initial licensure in Virginia must have earned a liberal arts degree (or its equivalent) and pursue professional studies focusing on a specific area of preparation or licensure. Those without a liberal arts degree who enter a program should expect to take some additional course work prior to the awarding of a degree.

Those planning to teach at the secondary level must possess a major or its equivalent in the discipline in which they wish to teach and for which VCU offers the approved program teaching specialty.

Individuals who wish to obtain licensure in art education, music education or theater education should consult the School of the Arts section of this bulletin.

The Master of Teaching program integrates undergraduate course work for a bachelor's degree in a liberal arts or science major with course work and graduate study leading to a Master of Teaching in a program area.

## Approved programs and certification reciprocity

All of VCU's initial teacher preparation programs are approved by the Virginia Department of Education and accredited by the Southern Association of Colleges and Schools and the National Council for Accreditation of Teacher Education. VCU's School of Education also holds membership in the American and Virginia Associations of Colleges for Teacher Education and the Holmes Partnership.

Based on the National Association of State Directors of Teacher Education and Certification agreement, VCU graduates will be eligible for teacher licensure reciprocity with other states. Students interested in licensure reciprocity should contact the School of Education's Office of Student Services.

## Programs

### Bachelor of Science in Health, Physical Education and Exercise Science

Community health education  
Exercise science  
General health and physical education (for teacher preparation candidates)

### Minor in foundations of special education

### Master of Teaching (extended programs)

Early and elementary education  
Health and physical education  
Secondary education 6-12

English  
History  
History and social studies  
Mathematics  
Sciences  
Biology  
Chemistry  
Earth science  
Physics

### Master of Education

Adult learning  
Counselor education  
School counseling PK-12  
College student development and counseling  
Curriculum and instruction  
Educational leadership  
Administration and supervision  
Leadership studies  
Reading  
Special education  
Early childhood

General education  
Severe disabilities  
Sport leadership  
**Master of Science**  
Health and movement sciences

### Ph.D. in Education

Counselor education  
Curriculum culture and change  
Educational leadership  
Educational psychology  
Research and evaluation  
Special education and disability leadership  
Sport leadership  
Urban services leadership

### Ph.D. in Rehabilitation and Movement Science

Exercise physiology track  
Neuromusculoskeletal dynamics track

### Post-baccalaureate graduate certificates

Autism spectrum disorders  
College student development and counseling  
Instructional technology  
Teaching

Secondary education  
English  
History/social studies  
Mathematics  
Sciences  
Biology  
Chemistry  
Earth science  
Physics

### Post-master's certificates

Educational leadership  
Reading specialist

## Extended Teacher Preparation Program

The School of Education, in cooperation with the College of Humanities and Sciences, offers extended teacher preparation programs in early childhood and elementary education (prekindergarten through grade six), health and physical education (grades six through 12) and secondary education (kindergarten through grade 12). The successful completion of these programs results in the simultaneous awarding of both a bachelor's and a master's degree.

### General degree requirements

Undergraduate major  
Change of major and transfer students  
Transcript evaluation  
Faculty advisement  
Professional development schools  
Educator as reflective practitioner  
Demographics consideration in teaching  
Standards of learning  
Technology standards  
Extended program in early and elementary or secondary education  
Extended program in health and physical education

### General degree requirements

The successful completion of these programs results in the simultaneous awarding of both a bachelor's and a master's degree. Prospective Master of Teaching students earn their bachelor's degree in a specific field in which they plan to teach. A student generally begins work on the professional studies component in the third or fourth year of academic study.

A student enrolled in any one of the three extended teacher preparation programs must complete a minimum of 153/154 credits. The student must maintain a cumulative GPA of 2.8 for admission to the teacher preparation program. Completion of at least 90 credits with a minimum GPA of 3.0 in the last 60 semester hours of study is required for that student to be admitted to the graduate studies portion of the extended program.

A Post-baccalaureate Graduate Certificate in Teaching is open primarily to those who have already earned a master's degree. The candidate must complete at least 30 additional hours beyond the bachelor's level. Admittance to this program requires a minimum GPA of 3.0 in the last 60 semester hours of study.

### Clinical experiences

All initial licensure programs require clinical experiences throughout the program. During the initial stages of a program, these experiences occur as practica in varied placements in K-12 education relevant to the student's program. Each program also requires a capstone clinical experience in the form of student teaching. For student teaching, those pursuing early and elementary education are placed in two settings, one in early elementary grades (K-2) and one in upper elementary grades (3-5). Those pursuing secondary education receive a single placement in their discipline in a middle school or high school setting.

With the guidance of a mentor, the intern assumes more independence in the field setting. Satisfactory completion of the internship and the preceding training is charted through evaluations made by the university supervisor, colleague-teacher and school administrator.

### Undergraduate major

Freshman students who plan to become early and elementary education teachers are required to enroll in the Bachelor of Interdisciplinary Studies liberal studies for early and elementary education major. Transfer students should meet with a B.I.S. adviser prior to course registration. The B.I.S. degree requirements are outlined in the College of Humanities and Sciences section of this bulletin.

Prospective secondary teachers should major in the discipline they wish to teach. The disciplines in which VCU offers licensure programs are as follows: English, history/social studies, mathematics and science (various specialties). Students should consult with their education adviser to ensure that courses taken to meet major requirements also meet state licensure requirements.

### Change of major and transfer students

Students wishing to enter the Extended Teacher Preparation Program in early and elementary education or secondary education must transfer initially to the College of Humanities and Sciences. They must declare a major in the college and a specialization in the appropriate professional studies sequence in the School of Education. Students who wish to enter the extended program in health and physical education must choose the general health and physical education concentration in the health, physical education and exercise science major within the School of Education.

For admission to teacher preparation, a minimum GPA of 2.8 is required. A minimum GPA of 3.0 in the last 60 semester hours of study is required for admission to the graduate phase of the Extended Teacher Preparation Program.

### Transcript evaluation

The College of Humanities and Sciences evaluates transcripts of students pursuing the extended program in early and elementary education or secondary education; transcripts of students pursuing the extended program in health and physical education are evaluated by the School of Education. Credits are accepted if they conform to specific program guidelines; course equivalents from accredited colleges and universities are accepted if the grade earned is C or better. From the extended program, 60 semester hours of acceptable undergraduate course work are required to be admitted to a teacher preparation program. See specific criteria in the "Admission to the Extended Teacher Preparation Programs" section of this bulletin.

Credits that are accepted from two-year institutions may meet liberal arts and sciences requirements, but will not meet professional requirements for upper-division course work. The VCU Transfer Guide for Virginia Community Colleges lists, in full, credits accepted by VCU that have been earned in the state's community colleges.

After the initial student transcript evaluation, the assigned adviser reviews the accepted transfer credits with the student, determining what additional course work at VCU will be necessary. An adviser is not required to use all the accepted transfer credits in a student's program of study. Only those credits approved for transfer can be applied toward the chosen degree.

### Faculty advisement

An academic adviser is assigned to a student by the department of that student's chosen major in the College of Humanities and Sciences. A professional studies adviser is similarly assigned by the Department of Teaching and Learning or the Department of Health and Human Performance according to the student's proposed teaching endorsement. This adviser-student relationship continues throughout the course of study at VCU. Student and adviser jointly develop the student's individual program. During the planning process, the student identifies, clarifies and explores his or her personal and professional goals.

### Educator as reflective practitioner

The guiding theme of the teacher preparation program is "educator as reflective practitioner." The underlying foundation of instruction in the teacher preparation program is to challenge the prospective teacher to develop skills in critical reflection and to value thoughtful decision making. Candidates demonstrate critical reflection by: being open to and respectful of all stakeholders; taking other perspectives into account; utilizing critical thinking in framing and solving educational problems; making informed, ethical and professional decisions; and taking ethical and professional action.

### Demographics consideration in teaching

The demographics of elementary, middle and high school students are changing. There is an increase in the number of students for whom English is not the first language, of minority students, of students who do not all learn or respond in similar ways and of students who may be identified as possessing a disability.

Future teachers are encouraged to take advantage of opportunities through formal courses and other experiences to gain greater insight and ability in addressing learners from differing cultural backgrounds and considering the needs of learners with different learning styles, participation styles, and special abilities or disabilities.

### Standards of learning

Much of the prekindergarten through grade 12 curriculum is based on the commonwealth of Virginia's current Standards of Learning. Students preparing to be teachers are advised to examine the SOLs for the grade levels and content areas they plan to teach. The School of Education website has a link to the SOLs.

In some instances the content and concepts associated with one or more SOLs may be incorporated in a course in the College of Humanities and Sciences or in the School of Education, but as the SOLs are for a kindergarten through grade 12 curriculum and not a college curriculum, one may need to study several of these on her or his own.

### Technology standards

The use of computers, graphing calculators, science probeware and other technologies is integral to successful teaching in today's schools. Individuals preparing to teach must be competent on each of the eight standards in Virginia's Technology Standards for Instructional Personnel. These standards may be reached through the School of Education website.

Students are advised to consult with the professional studies adviser regarding the program's requirements for demonstrating competence. Several of the standards may be documented as met by passing the Computer Literacy Examination offered online through Knowlgenet. Please see the [General education requirements for undergraduate study](#) in the "College of Humanities and Sciences" section of this bulletin.

### Extended program in early and elementary or secondary education

In the extended program, a student generally begins work on the professional studies component in the third year of study. Information on specific requirements for all academic majors is available in the Department of Teaching and Learning, in the College of Humanities and Sciences' associate dean's office or through the department of the chosen major. Students may visit [www.soe.vcu.edu/departments/tl](http://www.soe.vcu.edu/departments/tl) for information about programs in the Department of Teaching and Learning. A student in the extended program must maintain a minimum cumulative GPA of 2.8 for admission to teacher preparation and clinical experience and, prior to the fifth year, a minimum GPA of 3.0 for admission to the graduate study portion of the program.



## Extended program in teaching health and physical education

Students who plan to become health and physical education teachers should enroll in the Bachelor of Science in Health, Physical Education and Exercise Science major with a concentration in general health and physical education. Transfer students should consult with a program adviser prior to course registration. The requirements for the B.S. are outlined in the program section of this Bulletin.

In the extended program students pursue an integrated curriculum leading to simultaneous awarding of a B.S. and Master of Teaching. Students begin professional studies early in the program. A student in the extended program must maintain a GPA of at least 2.8 for admission to teacher preparation (generally in the third year) and a minimum GPA of 3.0 to be admitted to the graduate portion of the program. Admission to graduate study typically occurs during the fourth year of study.

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## Admission information

Any undergraduate admitted to VCU who declares a major in the College of Humanities and Sciences is eligible to declare a specialization in special education or secondary education. Students specializing in early and elementary education must declare liberal studies for early and elementary education as their major in the Bachelor of Interdisciplinary Studies program. Undergraduates admitted to VCU who wish to become teachers of health and physical education must choose the general health and physical education concentration (teacher preparation) in the B.S. in Health, Physical Education and Exercise Science program in the School of Education.

Transfer students and students currently attending VCU who wish to change their majors to this program must have a minimum GPA of 2.0; however, note the much higher GPA requirement for admission to teacher preparation and then to graduate study. All students in the program, upon completion of 60 hours of undergraduate course work and prior to completion of 90 hours, must apply for admission to teacher education. To be accepted, a student must have a minimum GPA of 2.8 and must have achieved the required Commonwealth of Virginia scores on Praxis I tests and must have achieved the established composite score for the three tests.

Students who pursue one of the extended teacher preparation programs follow a series of steps as noted in order to meet all requirements, including the 153/154 credits.

### Step 1: Admission to the university

#### Requirements

- a.) Scores from Scholastic Aptitude Test (SAT) or American College Test (ACT)
- b.) Minimum 2.0 GPA from high school or previous college

#### Procedures

- a.) Declare an undergraduate major in the College of Humanities and Sciences (for early and elementary or secondary education) or a major in health, physical education and exercise science with a general health and physical education concentration in the School of Education (for health and physical education).
- b.) Declare an education specialization in early and elementary education, secondary education or health and physical education.

### Step 2: Admission to teacher preparation

Complete before enrolling in the first practicum (upon completion of 60 credits of liberal arts and prior to completion of 90 credits).

#### Requirements

- a.) 2.8 GPA or better
- b.) Completion of six hours of English, three hours of mathematics, four hours of laboratory science and six hours of social science and/or history.
- c.) Meet Virginia scores required for the mathematics portion of Praxis I and achieve a passing score on the Virginia Communication and Literacy Assessment
- d.) Confirmation of education specialization (Undecided majors must decide.)
- e.) Enroll in or have completed TEDU 101, EDUS 300, EDUS 301 or equivalent course

#### Procedures

- a.) Complete Admission to Teacher Preparation Application Form (obtain in Office of Student Services) and submit a current transcript
- b.) Complete TEDU 101, EDUS 300, EDUS 301 or equivalent course; submit

required Praxis scores

c.) Register in dean's office for interview upon returning Admission for Teacher Preparation Application Form; complete required interview with education program faculty

Note: Students must be admitted to Teacher Preparation Program to be eligible for practicum placement and accompanying courses. Applications for practicum are available at the Office of Student Services. (In secondary education, such applications may be distributed at the initial class meeting.)

d.) Register for, take and submit required Praxis I scores

### Step 3: Application to graduate studies

#### Requirements

- a.) 3.0 GPA or better
- b.) Acceptable scores on the Graduate Record Examination (GRE) or Miller Analogies Test (MAT). Generally students are expected to score at least an 800 composite (Verbal and Quantitative) on the GRE or 386 on the MAT.
- c.) Personal statement addressing reasons for seeking graduate education, including career goals; experience working with age group to be taught; reasons for entering teaching; and success in organizing, planning and implementing work with other individuals
- d.) Three references: it is suggested that these be instructors or advisers in the College of Humanities and Sciences and the School of Education; use Graduate Studies Reference Forms

#### Procedures

- a.) Obtain Graduate School Admissions packet from the Office of Student Services in Room 3106, Oliver Hall
- b.) Return completed application packet, along with up-to-date transcripts, to the VCU Graduate School

Note: Students must be admitted to the Graduate School to be eligible to enroll in graduate-level courses. No more than six graduate credits taken prior to admission to graduate study may be accepted toward the degree.

#### Application deadlines for early and elementary or secondary education

- Nov. 1 for spring semester
- March 15 for summer and fall sessions

### Step 4: Internship

All programs require a graduate-level internship (TEDU 672 and TEDU 674) during the fifth year. Applications for internship can be obtained in the Office of Student Services in Room 3106, Oliver Hall. Individuals in early and elementary education are placed in a kindergarten and a grade one through six classroom in the same semester. Individuals in secondary education typically have a single placement, although perhaps with two different teachers. Individuals in health and physical education typically have two placements: one and the elementary level and another at the secondary level.

#### Requirements

- a.) 3.0 GPA or better on graduate courses
- b.) Admission to teacher preparation and to graduate study
- c.) Completed application and transcripts submitted by established deadlines
- d.) Passing scores on applicable Praxis II specialty tests accompanying application

#### Procedures

- a.) Obtain application form from the Office of Student Services.
- b.) Submit copies of transcripts and required statement to a professional studies adviser for review.
- c.) Obtain approval signature of professional studies adviser.
- d.) Submit completed application to Office of Student Services by Sept. 15 for the following spring semester; by March 1 for the following fall semester.

### Step 5: Admission to the profession

(during the final semester of enrollment)

#### Requirements

- a.) Completion of all degree requirements
- b.) Completion of application for initial teacher licensure (obtain from Office of Student Services)

#### Procedures

- a.) Complete applications for undergraduate degree in humanities and sciences or health, physical education and exercise science with academic major adviser, and graduate degree in teaching with professional studies adviser.

b.) Submit application for initial teacher licensure with signature of university supervisor or professional studies adviser to the Office of Student Services.

## Added or add-on endorsements

### Added or add-on endorsements Teaching English as a Second Language

The School of Education offers the Virginia Department of Education ESL preK-12 endorsement for pre-service and in-service teachers. The ESL endorsement program at VCU requires 18 credit hours of ESL course work and 6 credit hours of a modern foreign language. Candidates must complete the following courses:

	Credits
<b>ESL qualifying courses</b>	
ENGL/LING/ANTH 390 Introduction to Linguistics	3
ENGL/LING/TEDU 552 Teaching English as a Second Language	3
TEDU 561 Reading Foundations	3
TEDU 562 Teaching Reading in the Content Areas	3
TEDU/FRLG 575 Intercultural Communication	3
TEDU 681 Investigations and Trends in Teaching (ESL curriculum and assessment)	3
Foreign language courses (modern languages only)	6
<b>Total</b>	<b>24</b>

### Add-on endorsements in grades 6 through 12, science

Add-on endorsements in science are available in biology, chemistry, earth science and physics. Each add-on requires a first endorsement in one science and at least 18 semester hours in the add-on science that includes preparation in specified areas. The earth science added endorsement is listed below. For information about the added endorsements in biology, chemistry or physics, contact the Department of Teaching and Learning.

#### Earth science

To add an earth science endorsement to an endorsement in another science discipline, the individual must earn at least 18 semester hours in the earth sciences, including preparation in geology, oceanography, meteorology and astronomy. Courses to meet these requirements include:

GEOG/ENVS and GEOZ/ENVZ 105 Physical Geology and Laboratory  
 GEOG/ENVS and GEOZ/ENVZ 335 Environmental Geology and Laboratory  
 GEOG/ENVS 411 Oceanography  
 GEOG/ENVS 401 Meteorology and Climatology  
 PHYS 103 Astronomy  
 Elective courses to complete at least 18 hours include: GEOG 203 and 204 Physical Geography and PHYS 391 Fieldwork and Special Topics.

## School of Education courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

The School of Education offers courses in the following areas:

Use this link to see administration and supervision ([ADMS](#)) courses.

Use this link to see adult education ([ADLT](#)) courses.

Use this link to see athletic training ([ATTR](#)) courses.

Use this link to see counselor education ([CLED](#)) courses.

Use this link to see early childhood special education ([ECSE](#)) courses.

Use this link to see educational leadership ([EDLP](#)) courses.

Use this link to see educational studies ([EDUS](#)) courses.

Use this link to see emotional disturbance ([EMOD](#)) courses.

Use this link to see English education ([ENED](#)) courses.

Use this link to see health and movement sciences ([HEMS](#)) courses.

Follow these links to health, physical education and exercise science ([HPEX](#)) courses or the ([HPEZ](#)) laboratories.

Use this link to see interdisciplinary developmental disability studies ([IDDS](#)) courses.

Use this link to see mental retardation ([MNRT](#)) courses.

Use this link to see reading ([READ](#)) courses.

Use this link to see reading and study skills ([RDSS](#)) courses.

Use this link to see rehabilitation and movement science ([REMS](#)) courses.

Follow these links to recreation, parks and sport management ([RPSM](#)) courses or the ([RPSZ](#)) laboratories.

Use this link to see special education and disability policy ([SEDP](#)) courses.

Use this link to see special education – learning disabilities ([SELD](#)) courses.

Use this link to see sport leadership ([SPTL](#)) courses.

Use this link to see teacher education ([TEDU](#)) courses.

## Graduate information

### Admission procedures for graduate study

#### Application procedures

Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu](http://www.graduate.vcu.edu). Note that applications cannot be processed until they are complete (including test scores). Admission information specific to each program can be found in the division section of this bulletin.

#### Test scores

Either the GRE, General Aptitude portion, or the MAT is required for the Master of Teaching, the Master of Education, the Master of Science, the Post-master's Certificate for Principals and Supervisors, the Post-master's Certificate in Reading, the Post-baccalaureate Certificate in Teaching and the Post-baccalaureate Certificate in Instructional Technology. The Ph.D. program requires the GRE, General Aptitude portion.

A passing score on Praxis I, although not required for graduate admission, is required for placement in clinical experiences (practica, internships and certain externships) as well as for licensure in Virginia. Contact the Student Services Center for applications for Admission to Teacher Preparation, booklets on Praxis I and Praxis II, and information regarding offerings of the Praxis examinations by paper and pencil or by computer. Information about the tests may be obtained in the Student Services Center as well.

#### Application deadlines

The following application deadlines have been established for the Master of Education, the Master of Science, the Master of Teaching and the Post-baccalaureate Certificate in Teaching.

Mar 15	Summer session or fall semester term of entry
Nov 1	Spring semester term of entry

The Ph.D. in Education has the following application deadline:

Jan 15	Fall semester term of entry
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Students who are unable to enroll for the semester for which they are accepted must request a deferment.

## General admission requirements

The admission decision will be made on an overall analysis of the following for each degree program. See each division section for any additional information.

**Master of Teaching, Master of Education, Master of Science, Post-master's Certificate in Educational Leadership, Post-master's Certificate in Reading, Post-baccalaureate Graduate Certificate in Instructional Technology and Post-baccalaureate Graduate Certificate in Teaching**

- A minimum GPA of 3.0 on a 4.0 scale on the last 60 semester hours of study.
- Applicants whose GPA during the last 60 hours of course work falls just below 3.0 may be considered based on the strength of the overall application.
- Acceptable scores on the GRE or the MAT. Normally, students are expected to score at least 290 combined on the Quantitative and Verbal sections of the GRE with neither score falling below the 20th percentile, or at least 386 on the MAT.
- An interview with the applicant may be required by the faculty of the program to which the applicant is seeking admission.

### Ph.D. in Education

Refer to the Ph.D. in Education program section of this bulletin for admission requirements.

### Ph.D. in Rehabilitation and Movement Science

Refer to the Ph.D. in Rehabilitation and Movement Science section of this bulletin for admission requirements.

## Advising and student program planning

All students admitted to the School of Education are assigned advisers. Students are expected to work with their adviser to plan their programs of study. Each graduate program agreement, or changes thereto, must be approved by the adviser and the appropriate department chair, or the associate dean for academic programs. Courses taken without approval are taken at the student's risk. Each student is required to complete and file a program plan with the department before the completion of the sixth credit hour.

## Steps to completing M.Ed. and M.S. degrees

Step	When	Where
1. Admission	0-6 hours	Student Services Center
2. Program of studies	0-6 hours	With adviser, approved by department chair
3. Candidacy	12-18 hours	Application approved by adviser, core coordinator, department chair
4. Comprehensive examination*	30 hours	Application to department office
5. Externship or internship	Usually the last semester of course work	Application from Office of Student Services
6. Graduation	Last semester of course work; see current bulletin for deadline	Application from registrar (approved by adviser, department chair, dean's office and returned to registrar)

\* Not required in M.S. in Recreation, Parks and Sport Management, and M.Ed. in Special Education and being phased out in the M.Ed. in Curriculum and Instruction.

The chart outlines the general steps to completing the Master of Education and the Master of Science degrees. All other graduate-level students in the School of Education should refer to the appropriate section of this bulletin for information specific to these programs.

## Admission to candidacy

Admission to graduate study in the Master of Education or Master of Science programs does not constitute candidacy for a degree. Rather, students who have been admitted to graduate study are advanced to degree candidacy upon the

recommendation of the adviser, core faculty and department in which the degree is sought.

Advancement to degree candidacy requires that students must have completed at least 12 but no more than 18 semester hours of graduate study with a minimum GPA of 3.0; must have demonstrated clearly the aptitude and ability to pursue graduate study, including independent study; must have exhibited a commitment to their profession; and must have demonstrated promise for a successful career in the field selected in terms of temperament and personality. Specific courses may be required prior to application for candidacy. Admission to degree candidacy is not an automatic process. Students must file an approved application for candidacy with their departments. Only students who have been admitted to candidacy may pursue additional work toward the degree.

## Comprehensive examination

- Some students in a Master of Education or Master of Science in Health and Movement Science program must take a three-hour written comprehensive examination.
- Written examinations will be given on the first Saturday in November, the fourth Saturday in March, and the second Saturday in July. Students must notify the department in writing of the intention to take the examination at least 30 days prior to the published date. All comprehensive examinations must be taken on dates indicated except for religious or health reasons. Any exceptions must be approved in advance by the department chair.
- A minimum of three faculty members, designated by the core faculty, will evaluate each examination independently. Satisfactory performance on the comprehensive examination requires approval of two of the three evaluators.
- Any student failing the comprehensive examination must have a joint conference with at least two core faculty members, one of whom is the student's adviser, before taking the comprehensive examination again.
- During the conference, the core faculty members may recommend additional academic preparation and/or competencies that must be met by the student prior to retaking the comprehensive examination.
- The student will be notified by letter of the recommendations made by the core faculty in the conference.

The student will have only two opportunities to take the comprehensive examination. Failure to pass the comprehensive examination the second time will result in the student being dropped from the degree program.

## Transfer credit

A maximum of six credit hours of acceptable graduate credit may be transferred into a graduate degree program. Course work taken prior to being admitted to a program in the School of Education and not applied to another degree may be applied for transfer. This includes course work taken at VCU.

Course work submitted for transfer is evaluated by the student's adviser and the department head. See the Ph.D. in Education program section of this bulletin for information regarding transfer credit for this program.

As a general rule, continuing education courses taken at institutions other than VCU will not be transferred.

Students seeking to earn credit at other institutions after acceptance to a graduate program in the School of Education must receive prior approval from their advisers and the department chair, or the director for the Ph.D. program. See the Graduate School section of this bulletin for further information regarding transfer credit.

## Education, Doctor of Philosophy (Ph.D.)

**Admission requirements summary**

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: curriculum culture and change, educational leadership, educational psychology, research and evaluation, special education and disability leadership, sport leadership or urban services leadership			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall (sport leadership fall only)	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b> Personal interview and writing sample may be requested.			
Personal goals statement and professional vitae/resume required.			

The Ph.D. in Education Program is interdisciplinary in curriculum, design and management and serves a variety of special audiences. The program is organized into the following tracks.

- Curriculum culture and change
- Educational leadership track
- Educational psychology track
- Research and evaluation track
- Special education and disability leadership track
- Sport leadership track
- Urban services leadership track

**Student learning outcomes**

1. **Complete an original research study.** Dissertation component: Student will design, implement analyze and defend an original research study. Once a student passes the Prospectus Hearing, he or she will collect and analyze the data, and finish writing the last two chapters of their dissertation. Students have a committee of a minimum of four faculty members. Typically, this consists of a chair, a methodologist, a subject-matter expert and an expert outside of the School of Education. Each committee member independently reviews the student's work. Once the dissertation defense has occurred, the committee discusses its thoughts on the quality of the student work. Once all members agree, the student is granted a Ph.D.; therefore, inter-rater reliability is extremely high.
2. **Apply skills in external setting.** Externship component: Students will demonstrate their knowledge and skills in a professional placement in a school, agency or corporate setting. The faculty adviser and the externship site supervisor work together to evaluate the student.
3. **Develop research knowledge and skills.** Research component: Students will acquire the prerequisite skills essential to designing, conducting and interpreting qualitative and quantitative design research. Students will demonstrate this knowledge and skill set on a qualifying examination, which is independently evaluated by at least two faculty members. To address inter-rater reliability, if the two faculty members disagree on the student's level of knowledge, a third faculty member is called in to evaluate the student's responses on the qualifying examination. This exam is also graded "blindly," meaning that the evaluator does not know which student he or she is evaluating.
4. **Develop in-depth knowledge in one area of study.** Concentration component: Students will demonstrate in-depth knowledge and skills in an area of study that is congruent with student's current or projected career goals. Content will differ according to chosen track.

**Administration**

**Colleen A. Thoma**

Program Director

**Jonathan Becker**

Track Coordinator, Educational Leadership

**Kathleen Cauley**

Track Coordinator, Educational Psychology

**Doris A. White**

Track Coordinator, Instructional Leadership

**James H. McMillan**

Track Coordinator, Research and Evaluation

**Evelyn Reed**

Track Coordinator, Special Education and Disability Policy Leadership

**Teresa J. Carter**

Track Coordinator, Urban Services Leadership/Adult Learning

**Joann Richardson**

Track Coordinator, Urban Services Leadership/Community Health Promotions

**Admission requirements**

The Ph.D. in Education program is designed for scholars and practitioners who wish to pursue advanced study in education. Preference is given to applicants who occupy positions of organizational leadership and have responsibility (or demonstrate potential) for planning, administering, conducting and evaluating educational programs, and to applicants who show potential for contributing to scholarship in the field of education.

**Admissions requirements**

Admission is highly competitive and is based on multiple indicators. Preference is given to qualified applicants who demonstrate serious purpose, scholastic excellence, superior preparation and appropriate experience for the program.

The admission requirements fall into the following three categories:

**Academic criteria**

- A completed VCU Graduate School Application form.
- Two official and up-to-date copies of all transcripts of the applicant's undergraduate and graduate record indicating that the applicant has earned a master's degree from an accredited college or university. For the educational psychology track only undergraduate transcripts are necessary if graduate work has not yet begun.
- Official and current scores (within the past five years) for the General Test of the GRE. Advanced test scores are not required but may be submitted. If applicants have taken the GRE more than five years prior to the year of expected admission, they must retake the examination. The Admissions Committee will consider the time elapsed since last formal schooling, occupational success and leadership ability.

Applicants are expected to have at least a 3.5 GPA on all graduate work (or undergraduate work if in the educational psychology track). In addition, applicants should have a composite score of at least 1000 on the verbal and quantitative sections of the GRE with a minimum of 50th percentile on the verbal test.

**External criteria**

- A professional resume indicating an applicant's educational and career experience as well as evidence of leadership potential. This experience may come from professional, civic, religious, fraternal or advocacy organizations. The applicant must present evidence of sustained experience in planning, leading, administering or evaluating programs and personnel in varied positions that are related directly to a program track. The evidence might include dates of positions, job responsibilities, supervisor's evaluations, publications and important knowledge that came from the position. Other appropriate evidence may include letters of recognition, awards and professional memberships.
- Completed forms from three references. The applicant must submit names, addresses and telephone numbers of three persons qualified and willing to rate the applicant's intellectual and leadership ability. If the applicant has attended school within the last three years, at least one of the references should be academic. Each of these persons completes a form rating the applicant in a number of personal and academic areas. Submission of these names constitutes permission to contact these persons by telephone anytime during the admission decision process.

In addition to these three names, the applicant should submit the name, address and telephone number of his or her current job supervisor. This person may be contacted by a representative of the Admissions Committee and informed of the full scope and requirements of the doctoral program. The

supervisor is expected to support the applicant's educational goals and be willing to provide release time for externship and other program-related activities.

### Self-expression

The applicant must submit a single statement in which he or she describes: (1) his or her work experience; (2) personal career goals and how they have emerged from his or her work experience; (3) the manner in which the doctoral program will enhance his or her career goals; and (4) what he or she might contribute to the program.

In addition, applicants who meet the first-tier admission requirements must also complete a controlled writing assessment. Details of this assessment are provided in the application packet (see below).

### Admissions process

Admissions decisions occur in a two-tiered process. In the first tier, applicants are evaluated for academic potential based on the three academic criteria listed above. Applicants who meet the academic criteria will have their full applications forwarded to the track faculty for further review in the second tier of the process. At this level, an applicant's personal statements, resume and letters of reference are evaluated. In addition, applicants may be invited for a personal interview and a controlled writing assessment. After the interview and writing assessment are completed and evaluated, each applicant is notified by mail of the admission decision.

### Application packet

Applicants for admission to the program must complete an admission packet, which includes the VCU Application for Graduate Study as well as supplementary essay materials. Admission packets are available from:

Virginia Commonwealth University  
Graduate School  
1001 Grove Avenue  
P.O. Box 843051  
Richmond, Virginia 23284-3051  
(804) 828-6916  
[www.graduate.vcu.edu](http://www.graduate.vcu.edu)

Virginia Commonwealth University  
School of Education  
Office of Doctoral Studies  
P.O. Box 842020  
Richmond, Virginia 23284-2020  
(804) 827-2657  
[www.soe.vcu.edu](http://www.soe.vcu.edu)

The applicant is encouraged to check, in advance of the deadline date, the status of his or her application packet to ensure that all components are in the packet by the deadline. Inquiries should be made to the Office of Doctoral Studies in the School of Education. Incomplete packets will not be reviewed by the Admissions Committee.

### Delayed admission

Anyone admitted for a particular year may request a delay of one year for entrance to the program. Normally this request will be granted. Individuals requiring a further delay will be required to reapply for admission. The request for delayed admission must be transmitted in writing to the director of the Office of Doctoral Studies and must state the reasons for the request and the date that the individual plans to begin the program.

### Transfer credit

Ph.D. in Education program students may transfer up to nine credit hours into the program, including courses taken at VCU prior to being admitted to the program. Note that credits earned for one degree cannot be applied to another degree. The rules for transferring credit to this program are:

- Transfer credit requests will be considered only after the student has been awarded continuing doctoral status.
- There are no substitutes for the foundation courses, externship or dissertation.

- Each request for transfer credit must stipulate the program component to which it applies with attendant reasoning. Requests for transfer and substitution for a specific research or concentration course must include course syllabus, reading list, instructor's name and any other pertinent material. Each request for transfer credit must be approved by the program director and must be judged appropriate for the development of the student's concentration or cognate area.
- To be valid for application to the program, transfer credit must have been taken no more than seven years prior to completion of all program requirements for awarding the degree, including successful defense of the dissertation.

Students wishing exceptions to these transfer rules must petition the program director through their advisers. Their recommendations may be reviewed by the Ph.D. in Education Policy Board for final action.

See the [Graduate Studies at VCU](#) section of this bulletin for further policies governing transfer credit.

### Curriculum

There are six components of the program leading to the Doctor of Philosophy in Education:

- **Foundations component** (six hours minimum). This component will consist of a writing-intensive sequence of two courses (three credits each) to be taken in the fall and spring semesters of the first year. The experience will begin with practical knowledge (what it means to be a doctoral student, the students place in the program, the programs place in the realm of education, how to engage in research-related activities, etc) and move toward theoretical and formal knowledge, taking care through course structure and content to illuminate the interplay between the two. Students will learn about the nature of scholarly inquiry and the worth of situating research within its wider social and political contexts while becoming members of VCU and their disciplinary scholarly communities.
- **Research component** (12 hours minimum). This component emphasizes the prerequisite skills essential to designing, conducting and interpreting research. It also provides the research, statistical and computer tools and resources necessary to produce research beneficial to the urban leader.

An applicant's level of research competence is considered prior to admission. Research-related prerequisites and/or corequisites may be established for individuals based on past academic and/or work experience.

- **Concentration component** (18 hours minimum). This component is designed to allow the student to pursue a series of courses that provide a specific focus and serve as the student's primary discipline. These courses are expected to develop the in-depth knowledge and skills in an identifiable area that is congruent with the student's current or projected career field. It is at this point in the program that the student pursues study in one of the following tracks:
  - Adult education and human resource development
  - Educational leadership
  - Instructional leadership
  - Research and evaluation
  - Special education and disability policy leadership
  - Urban services leadership

At least six hours of course work in research and/or concentration component must be taken outside the School of Education.

- **Externship component** (three hours minimum). The semester externship refers to a minimum of 120 hours of work experience, 90 hours of which must be completed on-site, designed to enhance the student's program, career goals and professional development. The externship site is outside the setting in which the student is employed currently and ideally in a different, but related, career area in which the student has had no or limited prior work experience. It is expected that the student will develop an appreciation for the network of service delivery systems in the urban setting and acquire additional leadership skills to function more effectively within that network.

Externships are developed jointly by the student and the student's adviser and



approved by the program director. Students may begin the externship experience only after being awarded continuing doctoral status. The required 120 clock hours of the externship may be extended over two consecutive semesters, if appropriate.

- **Dissertation component** (nine hours minimum). This component consists of EDUS 890 Dissertation Seminar, three hours, and EDUS 899 Dissertation Research, six hours. EDUS 890 Dissertation Seminar is designed to aid the student in identifying the resources and refining the skills required to initiate, develop and complete a scholarly prospectus and dissertation. The remaining credit hours of EDUS 899 Dissertation Research are assigned to the scholarly pursuit and completion of the dissertation.
- **Co-curricular activities.** These are activities designed to meet the core values of the Ph.D. program and include those related to instruction (e.g., serving as a teaching assistant for a course or teaching a course), scholarship (e.g., writing an article or conference proposal, participating in grant writing), professional development (e.g., attending workshops or seminars), professional service (e.g., participating in a program to enhance achievement of K-12 students in an urban setting), as well as other activities deemed appropriate by the individual tracks. It is anticipated that these activities will occur throughout the program and will be configured to represent increasing skill and sophistication as students move through the program.

**Credits****Foundation component**

6

EDUS 702 Foundations of Educational Research and Doctoral Scholarship I

EDUS 703 Foundations of Educational Research and Doctoral Scholarship II

**Research component**

12

EDUS 710 Educational Research Design

EDUS 711 Qualitative Methods and Analysis

STAT/SOCY 608 Statistics for Social Research

Three credit selective

**Concentration component**

18

**Externship component**

3

**Dissertation component**

9

EDUS 890 Dissertation Seminar

EDUS 899 Dissertation Research

48

**Other Ph.D. in Education program requirements****Residency requirement**

Ph.D. in Education students are required to complete a minimum of 12 credit hours each calendar year, commencing with the first semester in which the student enrolls for course work.

**Qualifying examination**

After completing 15 hours of study (including the doctoral foundations seminars and initial research course), students will take the qualifying examination covering basic research and writing skills. Additional content related to the concentration could be assessed at the discretion of the individual tracks. The examination provides an early assessment of students progress. Student must pass the qualifying examination to proceed in the program.

**Program planning**

Ph.D. in Education students are required to submit a final plan of program study before the completion of the 27th credit hour of study.

**Comprehensive examination**

Ph.D. in Education students are required to pass a comprehensive examination at the completion of all course work (excluding the dissertation component). The examination is scheduled once each semester over a two-day period.

**Educational leadership track****Admission requirements summary**

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: educational leadership			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b>			
Personal interview and writing sample may be requested.			
Personal goals statement and professional vitae/resume required.			

Designed primarily for line administrative personnel in public school units. Emphasis is placed on providing leadership training for superintendents, building principals and assistant principals.

**Curriculum****Credits**

18

**Concentration component****Educational leadership track**

(recommended sequence)

ADMS 701 Education Policy Research

ADMS 702 Educational Administration: Contemporary Theory and Practice

ADMS 703 Leadership for Social Justice and Equity in Education

ADMS 704 Equitability in the Distribution of School Financial Resources

ADMS 706 Leadership Perspectives on Learning

ADMS 707 The Politics of Education

Other courses selected in consultation with the adviser

**Educational leadership track**

The concentration and cognate components combined must include at least nine credit hours outside of the School of Education.

**Educational psychology track****Admission requirements summary**

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: educational psychology			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Feb 15	GRE
<b>Special requirements:</b>			
Personal interview and writing sample may be requested.			
Personal goals statement and professional vitae/resume required.			

The educational psychology track is designed to train research-oriented doctoral students who want to promote the success of students in educational environments. Doctoral students will integrate theory and research in the areas of

developmental psychology, cognition, social psychology and motivation, assessment, exceptional learners, and diversity to better study learning in schools or school-like settings.

### Curricula

#### For students admitted with baccalaureate degree

##### Content foundation: 15 credits

EDUS 605 Child and Adolescent Development  
EDUS 609 Learning Theories in Education  
EDUS 660 Research Methods in Education  
PSYC 612 Seminar in Motivation  
STAT/SOCY 508 Introduction to Social Statistics

##### Foundation: 3 credits

EDUS 702 Foundations of Educational Research and Doctoral Scholarship I  
EDUS 703 Foundations of Educational Research and Doctoral Scholarship II

##### Research: 15 credits

EDUS 710 Educational Research Design  
EDUS 711 Qualitative Methods for Analysis  
EDUS 797 Directed Research (3 credits earned over three semesters)  
STAT/SOCY 608 Statistics for Social Research  
Research elective

##### Concentration: 21 credits

EDUS 620 Proseminar in Educational Psychology I  
EDUS 621 Proseminar in Educational Psychology II  
EDUS 662 Educational Measurement and Evaluation  
EDUS 720 Seminar in Cognition and School Learning  
EDUS 721 Advanced Seminar in Social Processes in Education  
Elective outside the School of Education  
Elective

##### Externship: 3 credits

##### Dissertation: 9 credits minimum

EDUS 890 Dissertation Seminar  
EDUS 899 Dissertation Research (minimum of 6 credits)

#### For students admitted with a masters degree

##### Foundation: 3 credits

EDUS 702 Foundations of Educational Research and Doctoral Scholarship I  
EDUS 703 Foundations of Educational Research and Doctoral Scholarship II

##### Research: 12 credits

EDUS 710 Educational Research Design  
EDUS 711 Qualitative Methods and Analysis  
STAT/SOCY 608 Statistics for Social Research  
Research elective

##### Concentration: 21 credits

EDUS 620 Proseminar in Educational Psychology I  
EDUS 621 Proseminar in Educational Psychology II  
EDUS 662 Educational Measurement and Evaluation  
EDUS 720 Seminar in Cognition and School Learning  
EDUS 721 Advanced Seminar in Social Processes in Education  
Elective outside the SOE  
Elective

##### Extenshp: 3 credits

##### Dissertation: 9 credits minimum

EDUS 890 Dissertation Seminar  
EDUS 899 Dissertation Research (minimum of 6 credits)

### Curriculum culture and change

## Admission requirements summary

Education, Doctor of Philosophy (Ph.D.)			
Indicate specialization: curriculum culture and change			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
Special requirements:			
Personal interview and writing sample may be requested.			
Personal goals statement and professional vitae/resume required.			

The curriculum culture and change track offers a rigorous doctoral-level learning experience in curriculum and instruction with a strong emphasis on advocacy and social justice. The track prepares curriculum and instruction leaders for positions in school systems at the building level and above, as well as scholars with a wide range of curricular interests — urban education, rural education, linguistically diverse groups, oppressed groups, critical pedagogy, philosophical and sociocultural foundations of education, etc. In addition to a deep grounding in theoretical, practical and methodological approaches to curriculum and instruction, the track prepares instructional leaders to advocate for change across a wide range of institutions, systems and contexts.

The track offers challenging learning experiences in the field of curriculum and instruction. Its expressed social justice values allow us to frame courses in ways that provide critical analyses of contemporary schooling and ground students in the philosophical and historical roots of school change. The program welcomes students with interests in all institutional settings serving students across the life span (early childhood through adulthood) as well as informal and nonformal contexts. It also allows for discipline-specific cohorts in fields such as STEM and literacy.

The track distinguishes itself by preparing curriculum and instruction leaders to be change agents capable of working in school systems, higher education and advocacy organizations. It reflects an activist stance toward the education profession — one that views schooling as not only shaped by society but also as an active force for equity and meaningful societal change. It will appeal to a wide range of students: those seeking to become instructional leaders in school systems, those preparing to teach in the academy and all those desiring a strong foundation in educational reform.

### Curriculum

	Credits
<b>Concentration component</b>	<b>24</b>

#### Curriculum culture and change track (required sequence)

TEDU 617 Instructional Models  
TEDU 730 Educational Staff Development  
TEDU 731 Instructional Theories and Strategies  
TEDU 732 Advanced Seminar in Curriculum Studies  
EDUS 706 Educational Theory and Praxis in Historical and Contemporary Contexts  
EDUS 707 Socio-Cultural Perspectives on Schooling, Society and Change  
Other courses selected in consultation with the adviser

### Research and evaluation track

## Admission requirements summary

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: research and evaluation			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b> Personal interview and writing sample may be requested.  Personal goals statement and professional vitae/resume required.			

Designed primarily for individuals with responsibility for conducting research and evaluation projects in and for agencies and educational organizations, emphasis in this track is placed on developing proficiency in both quantitative and qualitative methods of inquiry, providing students with a breadth of methods to study varied educational and social research questions. Students may select a concentration in either research or evaluation.

## Curriculum

	Credits
<b>Concentration component</b>	18
<b>Research and evaluation track</b> (select six courses from the appropriate concentration)	

### Research concentration

SOCY 623 Causal Analysis  
 SOCY 605/PADM 605 Survey Research Methods  
 EDUS 790 Seminar in Educational Research and Evaluation  
 NURS 772 Advanced Qualitative Research Methods  
 MGMT 643 Applied Multivariate Methods  
 PPAD 721 Survey of Applied Research Methods in Public Policy and Administration  
 PPAD 711 Seminar in Public Policy and Administration  
 Other courses selected in consultation with the adviser

### Evaluation concentration

EDUS 661 Educational Evaluation: Models and Designs  
 EDUS 662 Educational Measurement and Evaluation  
 EDUS 790 Seminar in Educational Research and Evaluation  
 PPAD 627 Workshop in Policy Analysis and Evaluation  
 SOCY 605/PADM 605 Survey Research Methods  
 Other courses selected in consultation with the adviser

## Special education and disability leadership track

## Admission requirements summary

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: special education and disability leadership			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b> Personal interview and writing sample may be requested.  Personal goals statement and professional vitae/resume required.			

Designed primarily for individuals employed in leadership positions in the field of special education, emphasis in this track is placed on developing in-depth knowledge about topics as they pertain to personnel development, research, issues and policies in special education.

## Curriculum

	Credits
<b>Concentration component</b>	18
<b>Special education and disability policy track</b> (required sequence)	
SEDP 705 Seminar on Disability Policy	
SEDP 706 Personnel Development in Special Education	
SEDP 707 Critical Issues in Special Education	
SEDP 708 Designing, Funding and Conducting Research in Special Education	
SEDP 709 Directed Readings in Special Education	
Other courses selected in consultation with the adviser	

## Sport leadership track

## Admission requirements summary

<b>Education, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: sport leadership			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b> Personal interview and writing sample required.  Personal goals statement and professional vitae/resume required.			

The sport leadership track in the Ph.D. in Education program is designed for students to research, comprehend and interpret contemporary literature as it relates to leadership in the sport industry and to extend our knowledge and understanding of leadership in that industry. Students will have the opportunity to integrate theory and practice in the specific areas of economics, finance, marketing, management, communications and sociology of sport. Upon completion of the doctoral course work and dissertation, students will be prepared for higher education positions in sport management/administration and/or sport leadership programs across the U.S.

## Curriculum

### Foundation: 6 credits

EDUS 702 Foundations of Educational Research and Doctoral Scholarship I  
 EDUS 703 Foundations of Educational Research and Doctoral Scholarship II

### Research: 12 credits

EDUS 710 Educational Research Design

EDUS 711 Qualitative Methods for Analysis  
 STAT/SOCY 608 Statistics for Social Research  
 Research elective

**Concentration: 18 credits**

SPTL 701 Seminar in Sport Research  
 SPTL 702 Seminar in Sport Leadership and the Profession  
 MGMT 643 Applied Multivariate Methods  
 SPTL elective  
 6 credits of doctoral course work in focus area (universitywide electives)

**Externship: 3 credits**

EDUS 700 Externship

**Dissertation: 9 credits (minimum)**

EDUS/EDLP 890 Dissertation Seminar  
 EDUS/EDLP 899 Dissertation Research (minimum of 6 credits)

**Urban services leadership track**

**Admission requirements summary**

Education, Doctor of Philosophy (Ph.D.)			
Indicate specialization: urban services leadership			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Summer or fall	Nov 15 (early consideration)  Feb 15 (final deadline)	GRE
<b>Special requirements:</b> Personal interview and writing sample may be requested.  Personal goals statement and professional vitae/resume required.			

The urban services leadership track has two focal areas with different emphases to develop leaders as scholars and practitioners in adult learning or health promotion and education.

**Adult learning:** Applicants are expected to have experience working with adult learners in organizational, community, government, higher education, health care or nonprofit settings or within the community in roles as faculty, faculty developers, trainers, human resource development and organizational development professionals, adult literacy educators, or other roles in which they are actively involved in the teaching and training of adult learners.

**Health promotion and education:** This focus is designed to prepare future researchers, faculty and practitioners for leadership roles in academic, government (local, state, national and international), voluntary health agencies, and community-based and other health-related organizations. Doctoral students will utilize a multidisciplinary approach to develop a broad understanding of the critical issues and challenges in health promotion and health education and subsequently apply that understanding to the planning, implementation and evaluation of health promotion and education programs and initiatives.

**Curriculum**

	Credits
<b>Concentration component of the Ph.D. in Education</b>	18

**Urban services leadership track**

Courses designed to prepare future researchers and practitioners for leadership roles in either adult learning or health promotion and education

**Center for Sport Leadership at VCU**

The Center for Sport Leadership at VCU was developed with the idea of creating an innovative, practical learning environment that would prepare students for a successful career in the sport industry. This new educational paradigm teaches students the necessary skills, while giving them ownership of operational responsibility to the organization and providing access to upper-level administrators and coaches. The Center for Sport Leadership has placed students

in every area of the industry, including professional, intercollegiate, Olympic, nonprofit and grassroots organizations. These successful alumni provide a useful tool in establishing a network base for connecting with future leaders in the industry.

**Administration**

Sports Medicine Building  
 1300 West Broad Street  
 P.O. Box 842003  
 Richmond, Virginia 23284-2003  
 Phone: (804) 828-7821  
 Fax: (804) 828-4938  
[www.sportleadership.vcu.edu](http://www.sportleadership.vcu.edu)

**Nathan Tomasini**  
 Director

**Carrie Le Crom**  
 Assistant Director

**Brendan Dwyer**  
 Assistant Director

**Sport Leadership, Master of Education (M.Ed.)**

**Admission requirements summary**

Sport Leadership, Master of Education (M.Ed.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall Spring Summer	Apr 15 Nov 1 Mar 15	GRE or MAT
<b>Special requirements:</b> Students should contact the Center for Sport Leadership at VCU at (804) 828-7821 or link directly to <a href="http://www.sportleadership.vcu.edu">www.sportleadership.vcu.edu</a> for information and application materials.			

The Center for Sport Leadership at VCU offers a structured graduate program combining classroom theory with exposure to relevant field experiences. Through the sport leadership program, students will be prepared to assume the responsibilities for developing professional and amateur athletes, and managing sports programs in a variety of academic, public and private sectors. The interdisciplinary faculty and curriculum give students the opportunity to concentrate on areas most important to them and most relevant to the sports business. Students of the program are required to complete a comprehensive examination.

The center offers graduate courses online for those students who want to take advantage of educational opportunities via the Internet. Currently, three classes are available each semester.

**Student learning outcomes**

- Content knowledge of sport industry.** Students will be able to analyze and synthesize information and develop plans to address issues in sport leadership.
- Development of interpersonal skills and professionalism.** Students will demonstrate interpersonal skills and professionalism appropriate to the fields of sport management and coaching.
- Development of leadership skills.** Students will demonstrate content knowledge of leadership skills and traits, and the ability to utilize these skills and traits in a professional setting.

**Comprehensive examination**

- Written comprehensive examinations are required for all Center for Sport Leadership at VCU graduate students.
- Comprehensive examinations will take place at the end of the spring semester for each cohort of full-time, on-campus students and at the completion of 30 credits of course work for all part-time/distance-learning students.
- Comprehensive examinations will be evaluated in a pass/fail format.
- Comprehensive examinations will be independently evaluated by two faculty members; in the case that the faculty members disagree, a third faculty member will be brought in for a final decision.

- Any student failing the comprehensive examination will have one more opportunity to pass the exam. Failure to pass the comprehensive examination the second time will result in the student being dropped from the degree program.

For more information and to obtain an application for the sport leadership program, phone (804) 828-7821; fax (804) 828-7526; or visit the Web site at [www.sportleadership.vcu.edu](http://www.sportleadership.vcu.edu).

<b>Required core</b>	Credits 18
SPTL 603 Research Methods in Sport (3)	
SPTL 630 Sociology of Sport (3)	
SPTL 632 Sport Business (3)	
SPTL 633 Marketing of Sport (3)	
SPTL 635 Leadership Models in Sport (3)	
SPTL 643 Sport Law (3)	
<b>Selective courses</b>	6-9
SPTL/HEMS 591 Topical Seminar (1-3, maximum 6)	
SPTL 604 Research Practicum (3)	
SPTL 608 Sport and Entertainment Event Development (3)	
SPTL 610 Sport and Entertainment Event Development (3)	
SPTL 631 Contemporary Issues in Sport (3)	
SPTL 634 Foundations of Coaching (3)	
SPTL 640 Sport Media and Communications (3)	
SPTL 641 Sports Psychology (3)	
SPTL 642 Sport Ethics (3)	
SPTL 644 NCAA Collegiate Coaching (3)	
SPTL 651 Advanced Coaching Techniques (3)	
SPTL 691 Topics in Sport Leadership (3)	
<b>Field experiences</b>	9-12
SPTL 604 Research Practicum (3)	
SPTL 607 Field Instruction (3)	
SPTL 692 Independent Study (1-3)	
SPTL 695 Externship (3-6)	
<b>Total</b>	<b>36</b>

### Dual degree: Master of Business Administration/Master of Education in Sport Leadership

The dual degree M.B.A./M.Ed. in Sport Leadership will prepare students for leadership positions by combining the business teaching of an M.B.A. program with sport industry-specific knowledge gained in the M.Ed. program. This degree combination recognizes the growing complexity of the sport industry and reinforces the Center for Sport Leadership's commitment to preparing students for the leadership challenges of the future. The dual degree offers students course work and knowledge they will need to be successful in a business setting combined with the application and networking skills required in today's sport industry.

The M.B.A. phase of the program will encompass a problem-based learning style, immersing students in collaborative projects and working situations that are commonplace in the business world. Students will learn business concepts in a real-life context and develop skills in communication, collaboration and teamwork that are essential for success while developing their abilities to be creative, take initiative and accept personal responsibility for their actions.

The M.Ed. program will combine classroom and practical experience to prepare individuals for leadership positions in the sport industry. And interdisciplinary approach gives students the freedom to choose courses of personal interest and build a foundation of knowledge in their desired career fields.

Students may enter the program only in the fall semester and can complete both degrees with two years of study and will receive both degrees at the conclusion of the entire program.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

#### Suggested curriculum

##### Fall 1: 12 credits

ECON 610 Managerial Economics  
MGMT 641 Organizational Leadership and Project Team Management

SPTL 603 Research Methods in Sport  
SPTL 634 Foundations of Coaching

##### Spring 1: 12 credits

FIRE 623 Financial Management  
MKTG 671 Marketing Management  
SPTL 630 Sociology of Sport  
SPTL 632 Sport Business

##### Summer 1: 6 credits

SPTL 695 Externship  
Elective

##### Fall 2: 12 credits

ACCT 608 Managerial Accounting Concepts  
INFO 661 Information Systems for Managers  
SPTL 608 Sport and Entertainment Event Development  
Elective

##### Spring 2: 12 credits

INFO 664 Information Systems for Business Intelligence  
MGMT 675 Operations Management  
SPTL 610 Sport and Entertainment Event Development  
Elective

##### Summer 2: 6 credits

MGMT 642 Business Policy  
Elective

## Department of Counselor Education

The Department of Counselor Education at Virginia Commonwealth University is committed to excellence in the initial preparation and continuing development of professionals in the counseling field. The department, located in an urban setting, provides graduate students with research-based professional studies and clinical experiences necessary for effective counseling, advocacy and leadership in diverse geographic and socioeconomic settings. Specifically, the department prepares counselors with the specialized knowledge and skills required for placement in elementary, middle and high schools, as well as postsecondary educational institutions in the commonwealth of Virginia and throughout the nation. Consistent with this approach are the program goals of graduating students who have knowledge of basic counseling theory and practice, possess competencies in essential counseling services, exhibit scholarly inquiry, have the skills necessary to evaluate relevant research, are committed to evaluating their counseling interventions and participate in a variety of professional development activities.

## Administration

Mary Hermann  
Department Chair

### College Student Development and Counseling, Certificate (Post-baccalaureate Graduate Certificate)

#### Admission requirements summary

College Student Development and Counseling, Certificate (Post-baccalaureate Graduate Certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

Students who possess a master's degree in counseling from an accredited program may elect to pursue the Post-baccalaureate Graduate Certificate in College Student Development and Counseling. This 18-hour program will prepare counselors and other student affairs professionals for work in post-secondary educational settings.

#### Student learning outcomes

- Professional orientation/professional identity/continuing education:** Students display knowledge and understanding of the historical and philosophical foundations of the counseling profession, including counselor professional identity, and display necessary skills in applying this knowledge and understanding to professional practice. Students demonstrate the ability



to adhere to legal and ethical practice. Students understand the importance of continuing education and are committed to seeking continuing education throughout their careers.

- **Helping relationships/group work/career development/wellness:** Students display knowledge and understanding of counseling processes applied to both individuals and groups including knowledge of how to design, implement and evaluate programs related to academic, career and personal/social development of clients. Students display knowledge and skills related to responding to crises, emergencies and disasters. Students participate in the design, implementation and evaluation of programs that promote wellness, as well as prevention and intervention services.
- **Human development/wellness:** Students display knowledge of theories of learning, personality development, transitions and resilience, and use this information as a basis for facilitating optimal development and wellness.
- **Social and cultural diversity/social justice and advocacy:** Students display knowledge and understanding of diversity and equity issues and how these issues impact clients' academic, personal and career opportunities. Students display multicultural competencies including appropriate sensitivity, skills and advocacy in working with diverse clients. Students display knowledge and understanding of the relationship between counseling programs and academic achievement including an understanding of factors that promote student success and work to close the achievement gap among disenfranchised groups.
- **Assessment:** Students display knowledge and understanding of multiple factors that may affect personal, social and academic functioning; and possess knowledge and skills to identify, evaluate and implement appropriate needs assessments and consequent interventions.
- **Research:** Students display knowledge and understanding of research and evaluation, including understanding of how data are used to inform decisions, and students display skills and professional practices in appropriate collection, analysis and use of data.
- **Leadership:** Students display knowledge of issues that affect student affairs practice and demonstrate an understanding of leadership, organization and management practices that help institutions accomplish their missions. Students advocate for policies, programs and services that are equitable and responsive to the unique needs of postsecondary students. Students use and analyze multiple data sources, including institutional data, to make decisions about improving differentiated student programs and students develop measurable outcomes for student development activities. Students collaborate with the postsecondary community to assist students, and uses postsecondary community resources to improve student learning and development.

#### Program outline

	Credits
EDUS 604 Adult Development	3
EDUS/CLED 631 American College and University	3
EDUS/CLED 633 Academic Leadership in Higher Education	3
CLED 620 Student Development Services in Higher Education	3
CLED 672 Internship	6
600 clock hours of actual work in an appropriate setting.	

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### Counselor Education, Master of Education (M.Ed.)

#### Admission requirements summary

Counselor Education, Master of Education (M.Ed.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

Specific admission criteria can be found on this website at [www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&tid=30032](http://www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&tid=30032). For information on financial aid, visit [www.vcu.edu/enroll/finaid](http://www.vcu.edu/enroll/finaid).

The M.Ed. in Counselor Education is a 48-credit-hour program designed to prepare counselors for elementary, middle and high schools, as well as counselors for higher education and community agencies throughout Virginia and the nation. The school counseling track leads to school counseling licensure and preparation for advanced graduate work at the post-master's level. The college student development and counseling track provides students with the specialized knowledge and skills necessary for employment as student affairs professionals in higher education settings. Both tracks are accredited by the Council for Accreditation of Counseling and Related Programs and require a minimum of two years of study to complete.

The faculty makes every effort to assist students in individualizing a graduate program to match their professional needs and interests. However, individualization takes place in an environment of legitimate constraints revolving around institutional, accreditation and licensure requirements. Faculty members view each program as more than simply an aggregate of courses, and students should plan all program work with their faculty advisers.

For students who already have a master's degree in education, the 36 credits of program core courses in the school counseling track also will lead to recommendation for licensure as a school counselor. Students who wish to gain this licensure must meet with the department chair and file a plan of study. Although students holding master's degrees do not apply for admission to the graduate program, they must file the appropriate plan of study in order to qualify for the VCU-approved program of study. No course work taken more than seven years prior to applying for licensure as a school counselor will count toward meeting VCU's approved program course equivalents.

#### Student learning outcomes

**Professional orientation/professional identity/continuing education:** Students display knowledge and understanding of the historical and philosophical foundations of the counseling profession, including counselor professional identity, and display necessary skills in applying this knowledge and understanding to professional practice.

Students demonstrate the ability to adhere to legal and ethical practice. Students also will understand the importance of continuing education and are committed to seeking continuing education throughout their careers.

**Helping relationships/group work/career development/wellness:** Students display knowledge and understanding of counseling processes applied to both individuals and groups including knowledge of how to design, implement and evaluate programs related to academic, career and personal/social development of clients.

Students display knowledge and skills related to responding to crises, emergencies and disasters. They participate in the design, implementation and evaluation of programs that promote wellness, as well as prevention and intervention services.

**Human development/wellness:** Students display knowledge of theories of learning, personality development, transitions and resilience, and use this information as a basis for facilitating optimal development and wellness.

**Social and cultural diversity/social justice and advocacy:** Students display knowledge and understanding of diversity and equity issues and how these issues impact clients' academic, personal and career opportunities.

They display multicultural competencies including appropriate sensitivity, skills and advocacy in working with diverse clients.

Students also display knowledge and understanding of the relationship between counseling programs and academic achievement including an understanding of factors that promote student success and work to close the achievement gap among disenfranchised groups.

**Assessment:** Students display knowledge and understanding of multiple factors that may affect personal, social and academic functioning; and possess knowledge and skills to identify, evaluate and implement appropriate needs assessments and consequent interventions.

**Research:** Students display knowledge and understanding of research and evaluation, including understanding of how data are used to inform decisions, and students display skills and professional practices in appropriate collection, analysis and use of data.

**Student learning outcomes for school counseling track**

Students display knowledge of the professional models that guide the practice of school counseling and demonstrate the ability to articulate, model and advocate for appropriate school counselor duties and programs.

They display knowledge and understanding of the role of family-school-community collaboration on student development and strategies to enhance collaboration.

**Leadership:** Students display knowledge and understanding of leadership models, and of the school counselor's role in school leadership; students display appropriate skills and dispositions for working in a leadership capacity in school counseling.

**Student learning outcomes for college student development and counseling track**

**Leadership:** Students display knowledge of issues that affect student affairs practice and demonstrate an understanding of leadership, organization and management practices that help institutions accomplish their missions.

Students advocate for policies, programs and services that are equitable and responsive to the unique needs of postsecondary students.

Students use and analyze multiple data sources, including institutional data, to make decisions about improving differentiated student programs and students develop measurable outcomes for student development activities.

Students collaborate with the postsecondary community to assist students and uses postsecondary community resources to improve student learning and development.

**School counseling track**

Dockery, Dr. Donna  
Track coordinator  
[djdockery@vcu.edu](mailto:djdockery@vcu.edu)

credits

**Foundations**

9

**Human development and learning**

EDUS 605 Child and Adolescent Growth and Development

**Cultural, historical and philosophical** (one of the following)

EDUS 601 Philosophy of Education  
EDUS 608 History of Western Education  
EDUS 610 Social Foundations of Education  
EDUS 612 Education and the World's Future  
EDUS 614 Contemporary Educational Thought  
EDUS 673 Seminar on Educational Issues, Ethics and Policy

**Research**

EDUS 660 Research Methods in Education

**Program core**

36

CLED 600 Introduction to Counseling  
CLED 601 Theories of Counseling  
CLED 602 Techniques of Counseling  
CLED 603 Group Procedures in Counseling  
CLED 604 Practicum: School Counseling  
CLED 605 Career Information and Exploration  
CLED 606 Assessment Techniques for Counselors  
CLED 607 Multicultural Counseling in Educational Settings

CLED 610 Counseling in Elementary and Middle Schools

CLED 621 Secondary School Counseling Seminar

CLED 672 Internship (six credits)

600 clock hours of actual work in an appropriate setting. Students wanting placement in elementary, middle or high schools may not fulfill this requirement during the summer.

**Approved electives**

3

48

**College student development and counseling track**

Shoffner, Dr. Marie  
Track coordinator  
[mfcreeger@vcu.edu](mailto:mfcreeger@vcu.edu)

credits

**Foundations**

12

**Human development and learning**

EDUS 604 Adult Development

**Cultural, historical and philosophical**

EDUS/CLED 631 American College and University  
EDUS/CLED 633 Academic Leadership in Higher Education

**Research**

EDUS 660 Research Methods in Education

**Program core**

33

CLED 600 Introduction to Counseling  
CLED 601 Theories of Counseling  
CLED 602 Techniques of Counseling  
CLED 603 Group Procedures in Counseling  
CLED 605 Career Information and Exploration  
CLED 606 Assessment Techniques for Counselors  
CLED 607 Multicultural Counseling in Educational Settings  
CLED 608 Practicum: College Student Development and Counseling  
CLED 620 Student Development Services in Higher Education  
CLED 672 Internship (six credits)  
600 clock hours of actual work in an appropriate setting.

**Approved electives**

3

48

**Additional information**

Students accepted into the counselor education program must make satisfactory progress toward their degrees. Students who earn unsatisfactory grades and/or exhibit unprofessional conduct may be terminated from the program. More specific information about satisfactory academic progress can be found on this website at [www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30075](http://www.pubapps.vcu.edu/bulletins/graduate/?uid=10045&iid=30075).

Candidates for the master's degree in counselor education are eligible for graduation upon completion of all academic requirements and upon receiving a passing score on a comprehensive examination.

For additional information about the counselor education program, please see the [Department of Counselor Education website](#).

## Department of Educational Leadership

The mission of the department is to prepare reflective instructional leaders for K-12 schools and for literacy programs and corporate training centers. Through course work and other experiences, the program aims to turn out leaders who are able to develop positive school cultures through the use of communications skills and by appropriation of fiscal, material and human resources.

The department offers programs that lead to the M.Ed., Post-master's Certificate and Ph.D. in Education with a track in educational leadership. Individuals who complete one of those programs may qualify for endorsement by the Virginia Department of Education as administrator/supervisor. An optional track M.Ed. is offered for individuals in institutions of higher education and other settings who will benefit from the study of educational leadership but do not wish to seek positions as school administrators.

For more information consult the department's Web site at [www.soe.vcu.edu/departments/el](http://www.soe.vcu.edu/departments/el).

## Administration

**Charol Shakeshaft**  
Department Chair

### Educational Leadership, Certificate in (Post-master's certificate)

#### Admission requirements summary

Educational Leadership, Certificate in (Post-master's certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Mar 15	GRE or MAT

The post-master's certificate is a 21-hour program for individuals who hold a master's degree in the field of education or a master's degree that meets the requirements to hold a position requiring licensure in Virginia; who have an active five-year renewable educator license; and who have at least two years of school experience in an instructional personnel position that requires licensure in Virginia.

An end-of-program assessment is required. Individuals must meet Technology Standards approved by the Virginia Board of Education, and they must supply proof of Child Abuse and Neglect Recognition Training. Individuals successfully completing the program are eligible for endorsement as an administrator/supervisor K-12.

This program is delivered through an innovative, competency-based curriculum comprised of a combination of face-to-face and online one-, two- or three-credit courses. The program features authentic real-time computer-simulated experiences imbedded in several courses throughout the program.

Please visit the Department of Educational Leadership's [Auto-Advising](#) Web page for program-specific application requirements.

#### Student learning outcomes

- Candidates demonstrate content knowledge.** Candidates demonstrate content knowledge in educational leadership as evidenced by the SLLA and the School Law Case Study.
- Design, align, evaluate curriculum and guide learning.** Candidates demonstrate the ability to develop a supervisory plan for classroom-based learning as evidenced by the Clinical Supervision Model.
- Internship/clinical practice.** Candidates demonstrate effective applications in internship/clinical practice as evidenced by the On-Site Supervisor Evaluation.
- Assess application of content.** Candidates demonstrate application of content as evidenced by the Action Research Project.
- Assess management and community relations.** Candidates demonstrate organizational management and community-relations skills as evidenced by the Educational Intervention Plan.

**Credits**  
**21**

#### Required courses

ADMS 618 Leadership for Educational Change and Improvement  
ADMS 622 Understanding Diversity and Leading for Social Justice  
ADMS 623 Schooling as a Complex System  
ADMS 624 Principals as Human Resource Agents  
ADMS 625 Leadership for Individualized Learning  
ADMS 626 Internal/External Relations and Communications  
ADMS 627 Enhancing and Supporting Instruction  
ADMS 628 Cultural Inheritance of Schools  
ADMS 629 The Business of Schools  
ADMS 631 Evidence-based Decision-making  
ADMS 633 Multiple Dimensions of Leadership  
ADMS 670 Administrative Internship I\*  
ADMS 671 Administrative Internship II\*\*  
ADMS 675 Administrative Internship III\*\*\*

\*ADMS 670 must be taken in the first semester of enrollment in the program.

\*\*ADMS 671 is taken in the next-to-last semester of enrollment in the program.

\*\*\*ADMS 675 is taken in the last semester of enrollment in the program.

#### Assessment, no credit

Individuals must take the School Leader's Licensure Assessment or any other assessment required by the Virginia Board of Education for endorsement as a school principal/supervisor K-12.

### Educational Leadership, Master of Education (M.Ed.)

#### Admission requirements summary

Educational Leadership, Master of Education (M.Ed.)			
Indicate track: administration and supervision or leadership studies			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall entry only	Mar 15	GRE or MAT

The M.Ed. in Educational Leadership offers two tracks. The administration and supervision track is designed for individuals who aspire to positions as instructional leaders in schools. Those who hold positions of leadership in other educational institutions that don't require endorsement as a principal or supervisor may choose the leadership studies track.

Please visit the Department of Educational Leadership's [Auto-Advising](#) Web page for program-specific application requirements.

#### Student learning outcomes

- Candidates demonstrate content knowledge.** Candidates demonstrate content knowledge in educational leadership as evidenced by the SLLA and the School Law Case Study.
- Develop supervisory plan for learning.** Candidates demonstrate the ability to develop a supervisory plan for classroom-based learning as evidenced by the Clinical Supervision Model.
- Internship/clinical practice.** Candidates demonstrate effective applications in internship/clinical practice as evidenced by the On-Site Supervisor Evaluation.
- Assess ability to support student learning and development.** Candidates demonstrate ability to support student learning and development as evidenced by the Leadership to Support Student Learning assessment.
- Assess application of content.** Candidates demonstrate application of content as evidenced by the Action Research Project.
- Assess management and community relations.** Candidates demonstrate organizational management and community-relations skills as evidenced by the Educational Intervention Plan.

#### Administration and supervision track

The administration and supervision track of the M.Ed. in Educational Leadership is a 33-hour program that prepares individuals to fill positions as reflective leaders for schools. Applicants are expected to have at least two years of experience in a school setting in an instructional personnel position that requires licensure in Virginia and an active, five-year renewable educator license. An end-of-program

assessment is required. Individuals must meet the Technology Standards approved by the Virginia Board of Education, and they must supply proof of Child Abuse and Neglect Recognition Training. Individuals who successfully complete the program are eligible for endorsement as an administrator/supervisor K-12.

This program is delivered through an innovative, competency-based curriculum comprised of a combination of face-to-face and online one-, two- or three-credit courses. The program features authentic real-time computer-simulated experiences imbedded in several courses throughout the program.

Please visit the Department of Educational Leadership's [Auto-Advising](#) Web page for program-specific application requirements.

#### Required courses

ADMS 618 Leadership for Educational Change and Improvement  
ADMS 622 Understanding Diversity and Leading for Social Justice  
ADMS 623 Schooling as a Complex System  
ADMS 624 Principals as Human Resource Agents  
ADMS 625 Leadership for Individualized Learning  
ADMS 626 Internal/External Relations and Communications  
ADMS 627 Enhancing and Supporting Instruction  
ADMS 628 Cultural Inheritance of Schools  
ADMS 629 The Business of Schools  
ADMS 631 Evidence-based Decision-making  
ADMS 633 Multiple Dimensions of Leadership  
ADMS/TEDU 647 Educational Technology for School Leaders  
ADMS 670 Administrative Internship I\*  
ADMS 671 Administrative Internship II\*\*  
ADMS 675 Administrative Internship III\*\*\*  
EDUS 660 Research Methods in Education  
TEDU 615 Curriculum Development

**Credits**  
**30**

**Elective** (selected with approval of adviser)

**3**

**Total credits 33**

\*ADMS 670 must be taken in the first semester of enrollment in the program.

\*\*ADMS 671 is taken in the next-to-last semester of enrollment in the program.

\*\*\*ADMS 675 is taken in the last semester of enrollment in the program.

#### Assessment, no credit

Individuals must take the School Leader's Licensure Assessment or any other assessment required by the Virginia Board of Education for endorsement as a school principal/supervisor K-12.

### Leadership studies track

The leadership studies track of the M.Ed. in Educational Leadership is a 30-hour program for individuals who hold or expect to hold leadership positions in educational organizations but who do not wish to obtain the administration/supervision endorsement from the Virginia Department of Education. Applicants are expected to have at least two years of experience in an educational setting. The program includes 15 hours of credit in required courses and 15 hours in a concentrated series of electives chosen with approval of the student's adviser.

This program is delivered through an innovative, competency-based curriculum comprised of a combination of face-to-face and online one-, two- or three-credit courses. The program features authentic real-time computer-simulated experiences imbedded in several courses throughout the program.

Please visit the Department of Educational Leadership's [Auto-Advising](#) Web page for program-specific application requirements.

**Credits**  
**15**

#### Required courses

ADMS 622 Understanding Diversity and Leading for Social Justice  
ADMS 623 Schooling as a Complex System\*  
ADMS 624 Principals as Human Resource Agents  
ADMS 625 Leadership for Individualized Learning  
ADMS 626 Internal/External Relations and Communications  
ADMS 628 Cultural Inheritance of Schools\*  
ADMS 629 The Business of Schools  
EDUS 660 Research Methods in Education

#### Electives

**15**

Any planned, concentrated series of courses from ADLT, ADMS, EDUS, PADM, SEDP, TEDU designed by student or student group and adviser to meet needs of student or student group

**Total credits 30**

\*Students select **one** of these two courses.

### Leadership, Doctor of Education (Ed.D.)

#### Admission requirements summary

Leadership, Doctor of Education (Ed.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ed.D.	Summer	Feb. 15	MAT
<b>Special requirements:</b> At least three years of leadership experience in field of work, a professional vita/resume and artifacts as evidence of leadership required. Applicants must meet GPA and other general admission requirements of the Graduate School.			
Detailed information about deadlines and the contents of the application packet is available on the <a href="#">Department of Educational Leadership's Ed.D. in Leadership</a> web page.			

#### Purpose

The purpose of the Ed.D. in Leadership is to provide leaders with authentic experiences, appropriate knowledge and skills, and opportunities for reflection that will enable them to succeed in organizational leadership positions. Three analytic lenses — equity, accountability and learning environments — will guide learning activities and enable students from varying backgrounds to consider learning through common perspectives.

Students will examine cases built around enduring questions in the field and examine these questions through three lenses: learning, equity and accountability. Questions will be explored through contrasting evidence from economic, systems, legal, human relations and political data and perspectives. The program content and assessments will correlate to common curriculum elements across perspectives.

#### Program features

The Ed.D. in Leadership is a 48-hour, 36-month program. Based upon principles of adult learning, the program has the following features:

- Practitioner-oriented
- Competitive admissions
- Midcareer entry
- Prescribed curriculum, with extensive use of case-study approach
- Learning-community based
- Problem-oriented pedagogy and curriculum
- Collaborative instruction involving VCU full-time faculty and area practitioners
- Applied research dissertation as a culminating project
- Varied meeting formats: weekends, evenings, monthly, weekday blocks of time, summer full-day institutes, face-to-face, and online

### Student learning outcomes

1. At the beginning of the Ed.D. program, participants create an online digital portfolio site that consists of two elements: (a) a blog that provides a venue for reflection on their learning and (b) a collection of artifacts that attest to their learning as a leader, with each artifact specifically related to their involvement in the Ed.D. program. Participants populate both elements of the portfolio at their own discretion throughout the first year. In the concluding month of the first year in the Ed.D. program, participants individually present their portfolios to a review team of two faculty members who rate the quality of the educational experience as reflected in each participant's portfolio.
2. During the second year of the Ed.D. program, participants work in teams to complete evaluations of programs currently in use in their workplaces. Teams confer with workplace supervisors to develop goals and objectives, review literature related to the program they are evaluating, design an evaluation study, collect and analyze data, and develop conclusions and



recommendations. The final products include a formal report, an executive summary and two presentations: one to the workplace supervisor and a second to the other program participants.

3. Graduate students must be approved for degree candidacy status by the Graduate School to be eligible to receive a graduate degree. Participants who meet the following criteria are eligible for candidacy status, upon recommendation of their faculty advisers.
4. Capstone project: Candidates collaborate in teams of three or four to design, implement, analyze and defend a study of an issue identified by an organizational client. Participating organizational clients describe the issue that they propose for study, and affinity groups of three or four candidates coalesce around issues of personal academic and professional interest, familiarity and expertise. Under the supervision of a faculty member with appropriate academic credentials, each team of students develops a response to the proposal of that team's preferred organizational client. The team's response contains a projected research design and time line. If this is accepted on behalf of the organizational client by the appropriate representative (referred to as "the client" in the following), an informal contract agreement is signed. Candidates commence review of extant literature related to the issue and gather preliminary data utilizing sources identified by the client. This preliminary phase culminates in the defense of a capstone proposal to the team's committee. Capstone committee members are graduate faculty members. Each committee consists of a chair, who is the supervisor of the team's initial research activities, and two additional members. Once the capstone proposal is defended, the team begins to collect its own current data pertaining to the issue identified by the client. Each capstone committee member independently reviews the work of the team as work proceeds. After one semester of the capstone project, each team presents and defends to the capstone committee and the client separately an interim report, which may include a revised time line. If this interim report is approved, each team proceeds to complete the collection of data, analyze the data, draws conclusions on the basis of the data analysis and prepares both an executive summary and a full report on the client's issue. Toward the end of the second semester of the capstone project, each team presents and defends both the executive summary and the full report to the capstone committee and the client separately.

## Department of Foundations of Education

The Department of Foundations of Education provides multidisciplinary, liberal education perspectives that undergird all programs in the school. Our contribution is based on the premise that the preparation of effective educational practitioners requires fundamental, deep understanding of the broader perspectives that are represented by research and theory in psychological, cultural, philosophical, historical and ethical areas of inquiry. As such, the department provides an essential link between practice and theory that makes effective reflection and decision making possible. By facilitating a rich contextual understanding of contemporary educational issues and practices, the department enhances the ability of educators to be reflective decision makers who make effective use of complex judgments and critical thinking. Our goal is to prepare educators for intelligent, responsible leadership in a variety of educational careers and settings for teaching, research, administration and policy-making.

The department plays an integral part in the Ph.D. in Education program by teaching required courses in urban education and research methods and other elective courses, by active participation on dissertation committees, and by directing the Research and Evaluation Track of the program. The department also has responsibility for the Metropolitan Educational Research Consortium (MERC), a partnership between VCU and seven Richmond area school divisions to conduct and disseminate action research.

For more information consult the department's Web site at [www.soe.vcu.edu/departments/fe](http://www.soe.vcu.edu/departments/fe).

## Administration

**James H. McMillan**  
Department Chair

## Department of Health and Human Performance

The Department of Health and Human Performance offers programs that prepare students to pursue careers in athletic training/sports medicine, community health and/or careers that employ exercise interventions for both healthy and diseased populations. The department offers one undergraduate degree program: Bachelor of Science in Health, Physical Education and Exercise Science. There are three concentrations within the B.S. in Health, Physical Education and Exercise Science: community health education, exercise science and general health and physical education. The latter concentration is intended for students in the five-year Extended Teacher Preparation Program who are preparing to be health and physical education teachers.

Along with the undergraduate program, the department also offers a Master of Science in Athletic Training, a Master of Science in Health and Movement Sciences, the teaching health and physical education concentration of the Master of Teaching and Doctor of Philosophy in Rehabilitation and Movement Science.

The M.S. in Health and Movement Sciences program provides advanced course work for students interested in the application of health and movement science principles to exercise science, teaching and sports medicine. This program has a central focus on the sciences and is flexible enough so that students, with the assistance of an adviser, can design a program that truly meets their professional goals. The program also offers an excellent progression of study for students that teach in the health and physical education field. The department also offers an entry level athletic training option as part of the M.S. in Health and Movement Science program.

The Master of Teaching with a concentration in teaching health and physical education is the graduate component of the five-year Extended Teacher Preparation Program which prepares students to teach health and physical education in grades K-12. Students begin study as undergraduates in the general health and physical education concentration of the B.S. in Health, Physical Education and Exercise Science program. Students apply for admission to teacher preparation and to the Graduate School during the course of undergraduate study. Upon completion of the program, students receive both the B.S. and M.T. degrees simultaneously.

The Doctor of Philosophy in Rehabilitation and Movement Science program is interdisciplinary in nature and includes faculty from the departments of Exercise Science, Physical Therapy, and Physical Medicine and Rehabilitation. Students choose either a cardiopulmonary track or one in neuromusculoskeletal dynamics.

For more information, consult the departments Web site at [www.soe.vcu.edu/departments/hhp](http://www.soe.vcu.edu/departments/hhp).

## Administration

**Edmund O. Acevedo**  
Associate Professor and Department Chair

### Health and Movement Sciences, Master of Science (M.S.)

#### Admission requirements summary

Health and Movement Sciences, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

(Department of Exercise Science)

This program provides advanced course work for students interested in the application of health and movement science principles to exercise science, teaching and sports medicine. Applicants planning to enter the teaching profession should hold a valid teaching endorsement. Students typically admitted to this program have backgrounds in exercise science, life science or related fields. This program does not provide opportunities for initial licensure in health and physical education.

The Master of Science in Health and Movement Sciences program of study offers a thesis and non-thesis option. Both options require a minimum of 36 total graduate credit hours for completion of the degree program.

After completing at least 12 graduate credits and not more than 18 credits, with a minimum GPA of 3.0, all students must apply for advancement to candidacy. In the thesis option, students must complete HEMS 798 Thesis for six credit hours and 30 hours of prescribed course work. Students enrolling in this option will not



be required to complete a comprehensive examination. In the non-thesis option, students must complete 36 hours of prescribed course work and must pass a comprehensive examination, which is taken after completing 30 hours of course work.

#### Student learning outcomes

1. **Understanding of research and statistics.** Candidate demonstrates an understanding of research design and statistical applications relative to the disciplines comprising the health and movement sciences as shown on the final examination in HEMS 602.
2. **Mastery of essential knowledge.** Candidate demonstrates mastery of essential knowledge in health and movement science.
3. **Advanced knowledge of health and movement science.** Candidate demonstrates a comprehensive or advanced knowledge of the field of health and movement science.

credits

#### Research core

15

HEMS 600 Introduction to Research Design in HEMS and RPSL (3)

HEMS 601 Movement Physiology (3)

HEMS 602 Statistical Application in HEMS and RPSL (3) or  
BIOS 543 Statistical Methods I (3)

HEMS 604 Nutrition for Health and Physical Activity (3)

HEMS 605 Psychology of Physical Activity (3)

#### Thesis option

6

HEMS 798 Thesis (6)

#### Specialty (select course work with consultation of adviser)

9-15

HEMS 500 Motor Development of Young Children (3)

HEMS 505 Contemporary Issues in Health (3)

HEMS 521 Pathomechanics of Sports Injuries (3)

HEMS 550 Exercise, Nutrition and Weight Management (3)

HEMS 606 Psychosocial Aspects of Sport (3)

HEMS 610 Laboratory Techniques in Movement Science (3)

HEMS 611 Biomechanics of Human Motion (3)

HEMS 613 General Motor Ability Evaluation (3)

HEMS 614 Motor Assessment for Special Populations (3)

HEMS 615 Orthopaedics and Therapeutics in Sports Medicine (3)

HEMS 620 Motor Learning and Performance (3)

HEMS 660 Neuromuscular Performance (3)

HEMS 700 Externship (1-6)

HEMS 701 Clinical Exercise Physiology (3)

HEMS 741 Directed Research Study (3)

HEMS 751 Research Seminar in HEMS (1-3)

#### Suggested outside electives

6

(develop electives in consultation with adviser)

minimum 36

### Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 9 will be given priority consideration	GRE

The Ph.D. in Rehabilitation and Movement Science is an interdisciplinary degree program developed through a collaborative partnership of the departments of Health and Human Performance, Physical Therapy, and Physical Medicine and Rehabilitation. The mission of this collaborative degree program is to prepare applied scientists capable of approaching multifaceted health care, preventive medicine and rehabilitation initiatives from an integrative rather than competitive perspective, and to prepare graduates to assume leadership positions in higher education teaching, research and management within rehabilitation and movement science.

There are two program tracks: exercise physiology and neuromusculoskeletal dynamics. The exercise physiology track prepares individuals to teach, conduct research and direct external funding initiatives in the area of cardiopulmonary rehabilitation and physiology, particularly in areas associated with metabolic and chronic disease states. The neuromusculoskeletal dynamics track prepares individuals for teaching, research and clinical initiatives associated with the identification and rehabilitation of movement disorders.

#### Student learning outcomes

##### Teaching effectiveness

Students will demonstrate teaching effectiveness in the classroom, clinical environment or both.

##### Dissemination of research

Students will disseminate research findings at an appropriate regional, national or international conference.

##### Research independence

Students will demonstrate the ability to independently collect research data, analyze research data and synthesize conclusions from research data.

### Admission requirements

Admission decisions are made by an admissions committee comprised of faculty members from each of the major collaborating departments: Exercise Science, Physical Therapy and Physical Medicine and Rehabilitation. Applicants must have completed at least one of the following: a master's degree in a related area, 30 hours of postbaccalaureate work (e.g. course work at 500 level or greater), or a first professional degree program. Admission decisions are made only on the basis of a completed application packet.

Applicants for admission to the program must complete an admission packet that includes the VCU Application for Graduate Study as well as supplementary program materials. Admission packets are available from:

#### Graduate School

Virginia Commonwealth University  
Moseley House  
P.O. Box 843051  
Richmond, VA 23284-3051  
(804) 828-6916  
[www.graduate.vcu.edu](http://www.graduate.vcu.edu)

or

#### Office of Doctoral Studies

Virginia Commonwealth University  
P.O. Box 842020  
Richmond, VA 23284-2020  
(804) 827-2657  
[www.soe.vcu.edu](http://www.soe.vcu.edu)

The entrance requirements fall into the following three categories. All criteria must be completed for consideration for admission.

#### Academic criteria

- A completed VCU Graduate School Application.

- An official and up-to-date copy of all transcripts of the applicant's undergraduate and graduate record indicating that the applicant has completed the minimum required prerequisite course work.
- Official and current scores (within the past five years) for the general test of the GRE. Older scores may be submitted and consideration will be based upon the time elapsed since last formal schooling, occupation success and research ability.
- Priority for admission will be given to the applicants who have attained at least 3.5 in all graduate work attempted and a combined verbal and quantitative score on the GRE of a minimum of 1,000. If the TOEFL is required, a minimum score of 100.

#### External criteria

- A professional resume indicating an applicant's educational and career experience as well as evidence of research potential.
- Completed reference forms from three individuals capable of evaluating the applicant's academic and research potential.

#### Written expression

- A personal statement in which the applicant discusses his or her personal career goals and the manner in which this doctoral program would enhance those goals.

Applicants being considered for admission must complete an interview with a Ph.D. admissions committee representative and/or research faculty member with whom the student would like to work.

The applicant is encouraged to check the status of his or her application packet to ensure that all components of the packet have been received. Inquiries should be made to the Office of Doctoral Studies. The Admissions Committee will not review incomplete packets.

#### Transfer credit

Students in the program may transfer up to nine credit hours into the program, including courses taken at VCU prior to being admitted to the program. Note that credits earned for one degree cannot be applied to another degree.

#### Curriculum

The Ph.D. in Rehabilitation and Movement Science will require a minimum of 38 credit hours of course work and 12 credit hours of dissertation research. Students will be required to complete:

- 12 credit hours of research core courses comprised of a research design class, two classes in statistical application and an elective in the area of research design or statistics.
- 18 credit hours in a concentration comprised of a focus on course work in a specific discipline formulated with the major adviser and approved by the Admissions Committee of the degree program.
- Three credit hours comprised of laboratory rotations in a minimum of two laboratories within the Rehabilitation and Movement Science program; each credit hour requires a minimum of 50 contact hours in the laboratory selected.
- Five credit hours minimum of professional development comprised of an interdisciplinary research/journal club seminar (0.5 credit hour per semester), a teaching practicum (one credit hour) and a presentation delivered at a regional, national or international conference of a related discipline (one credit hour).
- 12 credit hours of dissertation research comprised of a focused line of research over a three-to-four-year period of doctoral work.

Required research courses for the program (nine credit hours) – both tracks:

	Credits
STAT 543 Statistical Methods I	3
STAT 544 Statistical Methods II	3
ALHP 761 Health Related Sciences Research Design (or other approved course in research design)	3
Approved research design alternatives:	
HADM 761 Health Services Research Methods I	3

SOCY 626 Applications of Advanced Research Methods	3
EDUS 710 Educational Research Design	3

Elective research courses for the program (three credit hours) – both tracks:

	Credits
BIOS 531 Clinical Epidemiology	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3
BIOS 655 Quantitative Epidemiology	3
ALHP 716 Grant Writing and Project Management in Health Related Sciences (or elective research course in consultation with adviser)	3

Required concentration courses for the Ph.D. program tracks

	Credits
<b>Exercise physiology track</b>	
HEMS 701 Advanced Exercise Physiology I	3
HEMS 702 Advanced Exercise Physiology II	3
PHIS 501 Mammalian Physiology	5
PHIS 512 Cardiovascular Exercise Physiology	3
PHIS 612 Cardiovascular Physiology	3
REMS/HEMS 610 Laboratory Techniques in Rehabilitation and Movement Science	3
	20

#### Neuromusculoskeletal dynamics track

(select 18 credits from the following):

HEMS 611 Biomechanics of Human Motion	3
REMS/HEMS 660 Neuromuscular Performance	3
REMS 665 Instrumentation in Motion Analysis	3
REMS/HEMS 692 Independent Study or elective course	3
PHTY 605 Foundations of Pathokinesiology	3
PHTY 606 Therapeutic Kinesiology	3
PHTY/REMS 608 Advanced Musculoskeletal Sciences	3
PHTY/REMS 612 Advanced Biomechanics	3

#### Laboratory rotations (three credit hours) – both tracks:

REMS 710 Research Techniques in Rehabilitation and Movement Science	1-3
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#### Professional development core (five credit hours minimum) – both tracks

REMS 690 Research Seminar in Rehabilitation and Movement Science	1
REMS 793 Teaching Practicum in Higher Education	1
REMS 794 Research Presentation Seminar	3-4

#### Research in rehabilitation and movement science (12 credit hours) – both tracks

REMS 798 Research in Rehabilitation and Movement Science	12
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## Advisory committee

### Adviser

Incoming students will identify a faculty member in the program with whom they would like to pursue their academic program and research endeavors. Every effort will be made to accommodate the student's first choice of a faculty adviser. If the student is unsure of a research interest and adviser selection, the Admissions Committee will assign an adviser. Within the first two semesters of attendance, a permanent adviser should be identified. The adviser, together with the student, will develop a plan of study for the student's didactic and scholarly program and will be responsible for guiding the student's academic progress such that the adviser will supervise the student's research work and dissertation preparation.

### Advisory committee

The student, in consultation with the adviser, will identify faculty members to serve on the advisory committee. The committee shall be appointed no later than the end of the spring semester following matriculation into the program. The student's advisory committee shall be comprised of five faculty members to include the adviser, two members from the rehabilitation and movement science faculty and two faculty members from other related departments. The student's adviser, who is active in the field of research the student has selected, will chair the committee.

## Comprehensive examination

Once core courses are successfully completed, students must pass written and oral comprehensive examinations before transitioning to candidacy. These examinations will test students on their basic knowledge of rehabilitation and movement science principles (primarily in their chosen track) and research methods as obtained through core, research and elective courses of the curriculum. The student must demonstrate a firm grasp of the material and the potential to become an independent researcher.

The written exam will be given to students during their second spring semester in the program. The written exam will consist of an area paper pertinent to the student's area of interest. The student's adviser and advisory committee must approve the topic and an outline of the area paper. The student's adviser is responsible for grading the area paper. If a student receives a less than satisfactory grade on the area paper, he/she will be afforded the opportunity to make appropriate revisions. Students will only be allowed to revise the area paper once. The area paper should be a minimum of 15 double-spaced pages in 12-point font. The area paper must be in a form suitable for submission for publication to a journal whose content addresses topics consistent with the area paper. The student's adviser and advisory committee must approve the journal selection and manuscript prior to submission. A passing grade on the written exam is not contingent upon the manuscript being accepted for publication.

Following acceptance of the area paper, the student will write a research proposal. The structure of the proposal will follow federal grant submission guidelines such as those specified by the National Institutes of Health or the Centers for Disease Control. The analytical research proposal must be submitted to and approved by the student's advisory committee prior to the oral examination.

The oral exam should be conducted within three to six months of successful completion of the written exam with the goal of proceeding to candidacy by the end of the fall semester of the student's third year. The oral exam will be based on, but not primarily limited to, the student's proposed analytical research project. The student must receive a satisfactory grade from each committee member to pass the oral exam. The student may proceed to candidacy and begin the research outline in the proposal once successful completion of the oral examination is achieved.

## Exit requirements

### Dissertation defense

Upon completion of all required course work and the research project, the student must prepare a dissertation to describe the research. A dissertation manual is available for download from the VCU Web site. Students are highly encouraged to become familiar with this manual and use it as a guide for preparation of their dissertation. All committee members must approve the written dissertation and the student must orally defend this dissertation in a publicly advertised seminar prior to graduation.

Students are expected to meet all university graduate school requirements regarding minimal GPA and limitation on credits achieved with a grade of "C" or below.

## Time to degree

The doctoral degree must be obtained within seven years of matriculation. It is expected that full-time students will satisfy all requirements within four to five years. Part-time students may take the full seven years to complete all courses and the research project.

## Department of Special Education and Disability Policy

The mission of the Department of Special Education and Disability Policy is to prepare skilled, effective professionals who can meet the educational needs of children and youth with disabilities and their families through graduate degree programs, discover new instructional and service delivery strategies through an ongoing program of research, and share information on these strategies to a wide audience through collaborative relationships with children and youth with disabilities, their families, educators, local, state and federal government agencies, and other professionals throughout the commonwealth and across the nation.

The department offers extended teacher preparation programs that allow students to prepare for professional roles as teachers of students with emotional disturbance, learning disabilities, or mental retardation. These five-year programs culminate in the simultaneous awarding of both a bachelor's degree from the College of Humanities and Sciences and a Master of Teaching degree from the School of Education.

At the graduate level, the department offers five Master of Education programs. Successful completion of one of the degree programs leads to endorsement in early childhood special education, emotional disturbance, learning disabilities, mental retardation or severe disabilities. In addition, the department offers a Ph.D. in Education with an emphasis on Special Education and Disability Policy.

For more information consult the department's Web site at [www.soe.vcu.edu/departments/sedp](http://www.soe.vcu.edu/departments/sedp).

## Administration

### John J. Kregel

Professor and Department Chair

## Autism Spectrum Disorders, Certificate in (Post-baccalaureate graduate certificate)

### Admission requirements summary

Autism Spectrum Disorders, Certificate in (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Mar 15	
	Spring	Nov 1	
	Summer	Mar 15	

The Post-baccalaureate Graduate Certificate in Autism Spectrum Disorders is designed to prepare personnel to support individuals with autism spectrum disorders in the educational setting from early intervention through adult services. The purpose of the certificate is to provide the wide range of competencies necessary for the provision of effective educational programming. The course sequence enables personnel to develop comprehensive knowledge and experience in assessment, teaching strategies and curriculum development. The certificate is geared toward teachers, potential teachers and related service personnel. However, it is available to all professionals working in the human service setting who wish to gain expertise in this area.

All applicants must hold a bachelor's degree in any area related to education, social work, psychology or human services. Participants are required to earn 12 graduate credits as outlined below. Upon successful completion of the certificate program, participants will be able to:

- Describe the primary and secondary characteristics of ASD and the impact on communication, socialization, sensory responses, patterns of behavior and learning style throughout the lifespan.
- Understand the concerns of families of individuals with ASD and describe strategies and provide resources to help address these concerns.
- Understand and apply theories and research that form the basis of curriculum development and instructional practice.
- Assess student ability and develop individualized programs that use evidence-based practice to support and enhance learning across environments and across areas of development and need.
- Describe the behavior of individuals with ASD in terms of its function and identify how to provide positive behavioral support in order to replace existing problem behavior or prevent the development of new problem behaviors.
- Provide environmental supports, structure and technology adaptations to provide optimal learning and independence for individuals with ASD across environments.

The four autism spectrum disorder courses can also be completed by students who do not wish to earn the post-baccalaureate certificate. In this case, admission to the VCU Graduate School is not required. Individual student needs and preferences determine the best way for the student to proceed.

#### Student learning outcomes

1. Participants understand the field as an evolving and changing discipline based on philosophies, evidence-based principles and theories, relevant laws and policies, diverse and historical points of view, and human issues that have historically influenced and continue to influence the field of special education and the education and treatment of individuals with ASD. Participants understand how these influence professional practice, including assessment, instructional planning, implementation and program evaluation.
2. Participants understand the characteristics of those with ASD and the educational implications. This includes an understanding of:
  - Core and associated characteristics of individuals with developmental disabilities/autism spectrum disorders.
  - Medical aspects and implications for learning for individuals with developmental disabilities/autism spectrum disorders.
  - Co-existing conditions and ranges that exist at a higher rate than in the general population.
  - Different ways of learning and the impact of academic and social abilities, attitudes, interests and values on instruction.
3. Participants demonstrate knowledge of evidence-based practices selecting, adapting and using instructional strategies and materials according to characteristics of the individual with ASD. Participants demonstrate knowledge of evidence-based practices designed to target communication, social, behavior, sensory and academic needs.
4. Participants understand how to develop and implement comprehensive, longitudinal individualized programs in collaboration with team members. Participants demonstrate knowledge of instructional and assistive technology that can be integrated into the educational program. Participants understand how to plan systematic instruction based on learner characteristics, interests and ongoing assessment use.
5. Participants demonstrate knowledge of the components of assessment for individuals with developmental disabilities/autism spectrum disorders including both formal and informal assessments. Participants understand the need to assess individual strengths, skills and learning styles.
6. Participants understand the importance of collaboration with school personnel and families and demonstrate knowledge of related skills. Participants understand how to communicate effectively with families of individuals with ASD. Participants understand the value of observing, evaluating and providing feedback to paraeducators who work under their supervision.

#### Curriculum

SEDP 532 Understanding Autism Spectrum Disorders

Credits

3

SEDP 634 Assessment, Curriculum, and Teaching Methods for Autism Spectrum Disorders	3
SEDP 635 Supporting Behavior and Social Skills for Autism Spectrum Disorders	3
SEDP 638 Instructional Design and Field Experience for Autism Spectrum Disorders	3

Total

12

### Disability Leadership, Certificate in (Post-baccalaureate graduate certificate)

The Certificate in Disability Leadership is a 12-hour certificate program designed to prepare health professionals, special educators and other professionals in related disciplines in the field of childhood neurodevelopmental disabilities to be leaders in the health care system. The program provides a 12- to 24-month curriculum of didactic and Web-based courses, interactive seminars, clinical and community-based practica, a family mentorship experience, and planned grassroots- and systems-level policy activities.

The certificate is earned by completing the Virginia Leadership Education in Neurodevelopmental Disabilities interdisciplinary training program. Va-LEND is a collaboration among the School of Education (Partnership for People with Disabilities), the VCU School of Medicine (Department of Pediatrics) and the Virginia Department of Health (Title V Program). The LEND curriculum emphasizes all aspects of neurodevelopmental and related disabilities, the social environment (including ethnic and cultural issues), the interdisciplinary approach (systems of care), leadership (advocacy and public policy as well as administration) and research. Following completion of the program the trainees will be able to serve as leaders in the field of child health and neurodevelopmental disabilities.

To apply for the Post-baccalaureate Certificate in Disability Leadership, students must:

- Complete the [Va-LEND application](#) and submit to [Janet Willis](#) by June 1 to begin classes in the fall semester
- Complete the VCU Graduate School application

Required courses (12 credit hours):

IDDS 600 Interdisciplinary Studies in Developmental Disabilities: Teamwork in Serving People with Developmental Disabilities (3)  
 IDDS 602 Leadership in Developmental Disabilities (2)  
 IDDS 603 Clinical and Community Service for Children with Neurodevelopmental Disabilities (3)  
 IDDS 672 Practicum in Disability Leadership (4)

#### Student learning outcomes

1. Students will demonstrate an understanding of the nature and range of neurodevelopmental disabilities.
2. Students will demonstrate an understanding of the team approach to serving individuals with neurodevelopmental disabilities and their families.
3. Students will demonstrate an understanding of community services and resources available to individuals with neurodevelopmental disabilities and their families.
4. Students will demonstrate an understanding of their role as advocates for individuals with neurodevelopmental disabilities and their families.
5. Students will be involved in a leadership role with an organization serving individuals with neurodevelopmental disabilities and their families.

### Special Education, Master of Education (M.Ed.)

## Admission requirements summary

Special Education, Master of Education (M.Ed.)			
Indicate specialization: early childhood, general education or severe disabilities			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT

The Master of Education in Special Education program prepares graduates for work in one of three areas: early childhood, severe disabilities or general education. Applicants who do not already hold a teaching license must meet both licensure and degree requirements prior to the awarding of the Master of Education degree unless exempted as a professional from another discipline. Students should plan carefully with their adviser to ensure that the appropriate courses and experiences are completed. Successful completion of the degree program leads to endorsement in early childhood special education or severe disabilities.

There are several tests that students must pass for admission to teacher preparation, admission to student teaching and licensure in Virginia. Students should consult the [Student Services Center](#) section on the School of Education website for current testing requirements.

### Student learning outcomes

- Demonstrate content knowledge in special education.** Candidates demonstrate content knowledge in special education as evidenced by the final portfolio and case study paper.
- Effectively plan instruction.** Candidates demonstrate that they can effectively plan classroom-based instruction or activities for other roles as special educators as evidenced by the UDL/Collaboration unit plan.
- Effectively apply knowledge, skills and dispositions (clinical experience).** Candidates demonstrate knowledge, skills and dispositions are applied effectively in practice as evidenced by the Clinical Evaluation Continuum.
- Effect on student learning.** Candidates demonstrate effects on student learning as evidenced by the unit plan with curriculum-based measure (secondary).
- Candidates demonstrate CEC standards proficiency.** Candidates further demonstrate proficiency on CEC competencies as evidenced by the Assessing a Child/IEP assignment, the Multicultural Poster and Paper, and the Functional Behavior Assessment/Behavior Intervention Plan.

## Early childhood

## Admission requirements summary

Special Education, Master of Education (M.Ed.)			
Indicate specialization: early childhood			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT

The Master of Education in Special Education program with an early childhood track is a sequentially planned series of courses and clinical experiences designed to prepare individuals to work with young children, from birth through age 5, with developmental disabilities and their families. Successful completion of the degree program qualifies students for teacher licensure with endorsement in early childhood special education by the Virginia Department of Education. Students are prepared to intervene with infants and young children representing a wide range of abilities, including those at risk for developmental delays and those at risk for severe disabilities. As a result of training, students will be prepared to fill a variety of early intervention roles. The program can be completed in five semesters of full-time study or six semesters of part-time study.

Applicants who do not have a provisional or professional collegiate teaching license in special education must take SEDP 630 Trends in Special Education as a prerequisite course.

## Foundations

6

Choose one of the following (3 credits):

- EDUS 605 Child and Adolescent Development
- EDUS 607/PSYC 607 Advanced Educational Psychology
- EDUS 673 Seminar on Educational Issues, Ethics and Policy

Research (3 credits):

- EDUS 660 Research Methods in Education

## Special education core

8

- ECSE 500 Language/Communication Intervention for Young Children with Disabilities (3)
- ECSE 542 Family/Professional Partnerships (2)
- SEDP 631 Classroom Management and Behavior Support for Students With Disabilities (3)

## Early childhood track

23

- ECSE 541 Infants and Young Children with Special Needs (3)
- ECSE 601 Assessment of Infants and Young Children with Disabilities (3)
- ECSE 602 Instructional Programming for Infants and Young Children with Disabilities (3)
- ECSE 603 Integrated Early Childhood Programs I (2)
- ECSE 604 Early Literacy and Augmentative Communication (3)
- ECSE 672 Internship in Early Development and Intervention (2)
- ECSE 700 Externship (4)
- SEDP 641 Independent Study (3)

## Electives

(optional)

- SEDP 531 Educational Foundations for Collaboration and Universally Designed Learning (3)
- SEDP/TEDU 619 Multicultural Perspectives in Education (3)

## Program total (without thesis)

37

TEDU 798 (6)

## Program total (with thesis)

43

## General education

## Admission requirements summary

Special Education, Master of Education (M.Ed.)			
Indicate specialization: general education			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT

Graduates of the Master of Education in Special Education general education track learn the professional knowledge and skills needed to work in a variety of settings.



- General education classrooms (where children with special needs are being collaboratively taught)
- Resource, modified resource or collaborative resource rooms
- Self-contained settings or classrooms in varied urban, suburban or rural areas
- Residential programs
- Various community environments

Special training is provided in teaching reading and language, behavior management, and the use of interactive strategies that teach positive social skills. Candidates are prepared to work with students in completing a variety of transitions, such as from special education to the general education classroom or from high school to employment and independent living.

Program course work encompasses broad concepts of education, research, development, related disciplines and special education to build a foundation of professional knowledge and understanding. Specialized course develop the intensive diagnostic, remedial, decision-making and consultative skills and understandings required of a professional in special education-general education setting, including the ability to recognize educational and social problems, to formulate effective individualized instructional interventions using a variety of methodologies and modifications, to incorporate accommodations and transitions into program plans and to consult productively with appropriate personnel in the development of maximum educational opportunities for students with high-incidence disabilities.

The program offers a variety of placement opportunities for clinical experiences, including a range of public and private schools and mental health programs in the Richmond area, that allow graduate students to select field experiences that are consistent with their professional goals. Previous teaching experience is valued, but not required. Students without previous teaching experience complete a practicum in addition to the externship. When students complete the program, they are eligible for licensure by the Virginia Department of Education with an endorsement to teach students enrolled in special education, general curriculum in grades K-12. Candidates are offered the option of taking a full-time or an on-the-job externship for a semester.

Students who are in bachelor's degree programs who are planning to enroll are encouraged to consult with program faculty for assistance in selecting courses that provide sound foundation.

A personal interview with program faculty is required. Applicants who hold bachelor's degrees in areas other than special education must complete a review process with program faculty as part of the admissions process.

Applicants not having a provisional or professional collegiate teaching license in special education must take TEDU 620 Trends in Special Education as a prerequisite course.

<b>Foundations</b>	<b>3</b>
EDUS/PSYC 607 Advanced Educational Psychology	
<b>Research</b>	<b>3</b>
EDUS 660 Research Methods in Education	
<b>Special education core</b>	<b>31-32</b>
SEDP 501 Characteristics of Students with High Incidence Disabilities (3)	
SEDP 531 Educational Foundations for Collaboration and Universally Designed Learning (3)	
SEDP 601 Methods I: Teaching Students in Special Education - General Education (3)	
SEDP 602 Methods II: Teaching Students in Special Education General Education (2)	
SEDP 611 Secondary Education and Transition Planning (2)	
SEDP/TEDU 619 Multicultural Perspectives in Education (3)	
SEDP 700 Externship (3)	
TEDU 533 Educational Assessment of Individuals with Exceptionalities (3)	
TEDU 561 Reading Foundations: Sociological/Psychological Perspectives (3)	
TEDU 566 Diagnosis and Remediation in Reading (4) or SEDP 603 Theories, Assessment and Practices in	

Reading for Students With High Incidence Disabilities (3)  
TEDU 631 Behavior Management of Students with Disabilities (3)

**Total credits**

**37-38**

### Severe disabilities

### Admission requirements summary

Special Education, Master of Education (M.Ed.)			
Indicate specialization: severe disabilities			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT

The Master of Education in Special Education severe disabilities track is designed to prepare teachers to work with students in grades K-12 in public school settings. Throughout the program, emphasis is placed on person-centered planning, school and community inclusion, transdisciplinary teamwork and the role of the family. Courses address physical and medical management issues, functional assessment strategies, longitudinal curriculum planning, systematic instruction, augmentative and alternative communication systems, assistive technology, transition from school to adulthood, positive behavioral supports and the special needs of students with autism or physical, sensory and health-related disabilities.

All core courses are offered through the Virginia Severe Disabilities Consortium, but are accessed through VCU. Students enrolled in the program complete a field-based externship in their school (if they currently serve students with severe disabilities) or in one of the many public schools in the Richmond area. Six 1-credit-hour externship experiences are spread throughout the course of study and are designed to meet the students needs for professional development.

All candidates are required to submit a final portfolio as the capstone requirement of the program. Successful completion of the 42-credit-hour program results in eligibility for Virginia endorsement in special education, adapted curriculum in addition to the Master of Education degree.

Applicants who do not have a provisional or professional collegiate teaching license in special education must take SEDP 630 Trends in Special Education as a prerequisite course.

	<b>Credits</b>
<b>Foundations</b>	<b>3</b>
Choose one of the following:	
EDUS 603 Seminar in Child Growth and Development	
EDUS 605 Child and Adolescent Development	
EDUS 607/PSYC 607 Advanced Educational Psychology	
EDUS 673 Seminar on Educational Issues, Ethics and Policy	
<b>Research</b>	<b>3</b>
EDUS 660 Research Methods in Education	
<b>Specialization</b>	<b>36</b>
IDDS 600 Interdisciplinary Studies in Developmental Disabilities: Teamwork in Serving Persons With Developmental Disabilities (3)	
SEDP 531 Educational Foundations for Collaboration and Universally Designed Learning (3)	
SEDP 600 Language/Communication Intervention for Young Children and Individuals with Severe Disabilities (3)	
SEDP 610 Teaching Strategies for Students With Severe Disabilities (3)	

SEDP 612 Assessment and Curriculum for Students With Severe Disabilities (3)

SEDP 631 Classroom Management and Behavior Support for Students With Disabilities (3)

SEDP 632 Transition Strategies for Students With Disabilities (3)

SEDP 651 Topics in Education (characteristics of students with severe disabilities) (3)

SEDP 658 Educating Students with Physical and Sensory Disabilities (3)

TEDU 561 Reading Foundations: Sociological/ Psychological Perspectives (3)

TEDU 700 Externship (in severe disabilities) (6 hours total)

#### Other

Successful completion of SEDP 630 Trends in Special Education if candidate does not hold eligibility for a Virginia provisional special education teaching license

Successful completion of portfolio requirement

42

## Department of Teaching and Learning

The Department of Teaching and Learning is committed to excelling in the initial and continuing preparation of teachers for the commonwealth, with particular emphasis on early childhood through secondary education in diverse settings; to collaborating with colleagues in educational agencies; to applying research about learning in classrooms; to undertaking scholarly endeavors that examine learning and teaching processes; and to providing technical assistance to special populations and service to school divisions and agencies.

The department values:

- Providing the highest quality teaching and opportunities for learning.
- Integrating academic disciplines, professional studies and clinical experiences as program components for student learning.
- Collaborating in the preparation of teachers and in the continuing development of faculty both within the university and in public and private educational settings.
- Enabling teachers and intending teachers to work effectively with students from diverse populations and those with special needs.
- Helping intending teachers become effective decision makers and practicing teachers refine their decision-making skills in the roles for which they are preparing.
- Effectively modeling the use of technology to enhance and foster learning.
- Incorporating, among others, developmental, cognitive and functional approaches and content areas in the preparation of personnel in early, middle, secondary and special education programs.
- Serving the university through faculty participation in institutional committees and task forces, programs, and supportive research and service institutes and centers within the university.
- Serving the community through technical assistance, workshops, consulting education activities, Professional Development Schools and other partnerships.

The Department of Teaching and Learning houses the following degree and certificate granting programs.

[Master of Education in Curriculum and Instruction](#)

[Master of Education in Reading](#)

[Master of Teaching](#)

[Post-baccalaureate Graduate Certificate in Instructional Technology](#)

[Post-baccalaureate Graduate Certificate in Teaching \(Secondary\)](#)

[Post-master's Certificate in Reading Specialist](#)  
[Ph.D. in Education](#)

For more information consult the department's website at [www.soe.vcu.edu/departments/tl](http://www.soe.vcu.edu/departments/tl).

## Administration

**Michael D. Davis**

Professor and Department Chair

### Adult Learning, Master of Education (M.Ed.)

#### Admission requirements summary

Adult Learning, Master of Education (M.Ed.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

The Master of Education in Adult Learning is a 33-credit program of study that prepares individuals for a broad range of positions related to the education of adult learners. Students choose one of three elective tracks to concentrate in adult literacy, human resource development, or teaching and learning with technology. Graduates are found in major corporations, higher education, health care organizations, state and federal agencies, nonprofit and community-based organizations, and human services agencies. Admission to the program is predicated on the "whole person" concept, taking into account life experience, academic record, references and the reasons for the student's interest in the program. An interview with the program adviser is recommended prior to admission. Successful applicants will have sufficient prior work experience with adults as learners to enable them to bring relevant work experience into the classroom learning environment.

The program provides a foundation in educational research methods and a strong core of seven courses in the theory and practice of adult learning, including emphasis in development of facilitation skills, as well as the design and delivery of adult learning programs. Upon completion of the foundation and core courses, students choose one of three areas of focus: adult literacy, human resource development (learning in the workplace), or teaching and learning with technology. The last course in the program, a capstone seminar in action learning, reunites students from all three elective tracks for a comprehensive synthesis experience as they work in action learning teams to solve a real problem of strategic importance to an organization in the community.

A unique feature of the program is the learning portfolio, maintained in an online journal (blog) format. The learning portfolio, in combination with the capstone seminar, replaces a comprehensive examination requirement. For the portfolio, students write reflective blog entries during each of the core and elective track courses. During the program, selected assignments are posted to the blog to document personal growth and learning over time. At the end of the program, students create a synthesis of their learning in an essay format or through creation of a digital story. The portfolio serves as a demonstration of the graduate's abilities to a prospective employer and can be added to a student's resume. Throughout, the program utilizes students' experiences in working with adults as learners to unite theory with practice and emphasizes 21st-century technologies for teaching and learning.

#### Student learning outcomes

1. In earning the M.Ed. in Adult Learning, students demonstrate the ability to articulate a personal philosophy of adult learning practice that enables them to work effectively as leaders and facilitators to improve adult learning, as evidenced on the Final Program Learning assessment.
2. M.Ed. in Adult Learning students will demonstrate their ability to integrate their knowledge of all facets of adult learning to have a significant impact on the practices, culture and learning environments of the organizations in which they work.
3. Students will demonstrate their knowledge of the nature, function and scope of adult learning during the capstone experience of the program.
4. Students in this program will demonstrate their awareness of the processes of adult learning and development during their capstone experience.

- Students will acknowledge the influence of technology in adult learning, as evidenced in their Final Program Learning assessment.
- Students will demonstrate their awareness of educational research in the adult learning field, as evidenced on the Research on Instructional Strategy and Organizational Change Strategy Analysis rubrics.

**Curriculum**

Credits

**Foundation course**

3

EDUS 660 Research Methods in Education

**Core courses**

21

ADLT 601 Adult Learning and Development

ADLT 606 Design and Delivery of Adult Learning Programs

ADLT 610 Consulting Skills in Adult Learning Environments

ADLT 612 Learning in Groups and Teams

ADLT 636 Capstone Seminar in Action Learning

ADLT 650 Adult Literacy and Diversity

ADLT 688 Lifespan Issues for Adults with Learning and Behavioral Disabilities

**Elective tracks**

9

Students choose an elective concentration of nine credit hours in one of the three focus areas: adult literacy, human resource development, or teaching and learning with technology. These courses are designed to be taken after the student completes foundation and core courses, with the exception of ADLT 636, the capstone seminar.

**Adult literacy electives**

READ 602 Literacy for Adults

TEDU/ENGL/LING 552 Teaching English as a Second Language

TEDU 681 Investigations and Trends in Teaching (issues in adult literacy)

**Human resource development electives**

ADLT 620 Human Resource Development Overview

ADLT 623 Organizational Learning

ADLT 625 Change Strategies for HRD Practitioners

**Teaching and learning with technology electives**

ADLT 640 Theory and Practice of eLearning Integration Into Adult Learning Environments

ADLT 641 Exploration of Digital Media for Adult Learning

ADLT 642 Design Challenges in Creating eLearning for Adults

The Master of Education in Curriculum and Instruction program is designed to provide professional and cognate experiences for veteran teachers in health and physical education and instructional technology, and to provide a non-licensure option for students who have been admitted to the Master of Teaching program but choose not to complete licensure. Individuals may select to concentrate in health and physical education, instructional technology, or teaching and learning. Enrollment in the teaching and learning track requires recommendation from the student's adviser and approval by the department chair. Content courses within the program are selected in consultation with an adviser from the appropriate concentration.

**Student learning outcomes**

- Students will demonstrate an understanding of research designs and an ability to read research studies critically.
- Students will demonstrate an understanding of the historical, philosophical, sociological and ethical foundations of education and the impact that these have on public education.
- Students will demonstrate an understanding of the specific discipline appropriate to their concentration in curriculum and instruction.

**Program of study**

Credits

**Foundations**

9

EDUS 660 Research Methods in Education

EDUS 673 Seminar on Educational Issues, Ethics and Policy

Select one of the following:

EDUS 607/PSYC 607 Advanced Educational Psychology

STAT/SOCY 508 Introduction to Social Statistics

TEDU 615 Curriculum Development

TEDU 617 Instructional Models

Other course as approved by adviser

**Electives**

6

**Concentration\***

18

Health and physical education

HEMS 507 Teaching Health in Schools

HEMS 514 Physical Activity for Special Populations

HEMS 522 Teaching Elementary Health and Physical Education or

HEMS 524 Teaching Physical Education

HEMS 603 Applied Fitness and Nutrition for Health and Movement Science Professionals

HEMS 637 Advanced Technology in Teaching Health and Physical Education

TEDU 562 Reading Instruction in the Content Areas

Instructional technology

TEDU 556 Advanced Computer Applications in Education

TEDU 560 Instructional Strategies Using the Internet

TEDU 610 Developing and Critiquing Visual Literacy

TEDU 620/MASC 681 Video Applications in Instruction

TEDU 640 Designing and Managing eLearning

TEDU 673 Technology Leadership and Staff Development

Teaching and learning

18 hours in teaching and learning approved by the adviser.

\* Other courses as approved by adviser

**Curriculum and Instruction, Master of Education (M.Ed.)****Admission requirements summary****Curriculum and Instruction, Master of Education (M.Ed.)**

Indicate specialization:

health and physical education or instructional technology

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

**Instructional Technology, Certificate in (Post-baccalaureate graduate certificate)**

**Admission requirements summary**

<b>Instructional Technology, Certificate in (Post-baccalaureate graduate certificate)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

The Post-baccalaureate Certificate for Instructional Technology prepares educators to use technology effectively in their schools and to provide instructional leadership and technical support to other educators who use computer technology. Designed for teachers, resource persons and administrators at all grade levels (K-12), the sequence in instructional technology offers a unique opportunity to develop comprehensive knowledge and experience in the educational applications of computers and related technologies. The primary purpose of this certificate program is to meet the growing need for highly qualified core curriculum teachers, instructional technology support teachers and associated administrative personnel. The program requires six three-credit hour courses. In addition, prerequisites for the program require that students must be licensed K-12 teachers or administrators with a minimum of two years of classroom experience, who have completed TEDU 507 or provide evidence of mastery level of the requirements of that class. The program is committed to providing access to technology so that hands-on experience is offered in every class and participants produce instructional material that can be immediately integrated into the classroom.

**Student learning outcomes**

1. **Knowledge and skills.** Candidates will demonstrate the necessary knowledge and skills to facilitate effective learning experiences, using technology.
2. **Visual arts.** Candidates will demonstrate their skills in visual arts.
3. **Searching techniques.** Candidates will successfully demonstrate searching techniques.
4. **Video production.** Candidates will be able to produce and edit video for education.
5. **Online instructional modules.** Candidates will be able to set up online instructional modules incorporating various communication and digital activities for students.
6. **Conference presentation.** Candidates will present at a conference and be able to prepare a professional development class in technology.

**Curriculum**

	credits
TEDU 560 Instructional Strategies Using the Internet	3
TEDU 556 Advanced Computer Applications in Education	3
TEDU 610 Developing and Critiquing Visual Literacy	3
TEDU 620/MASC 681 Video Applications in Instruction	3
TEDU 640 Designing and Managing eLearning	3
TEDU 673 Technology Leadership and Staff Development	3
<b>Total</b>	<b>18</b>

**Reading, Master of Education (M.Ed.)****Admission requirements summary**

<b>Reading, Master of Education (M.Ed.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Ed.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

The Master of Education in Reading program with a K-12 reading specialist concentration is designed to provide experienced teachers who are prospective reading specialists with a program of sequential and integrated experiences in areas of the reading curriculum ranging from preschool to adult levels. Students will gain an understanding of the developmental and diagnostic processes

involved in teaching reading and the language arts and will become familiar with the resource and supervisory functions, that are part of the specialist role. Prior to graduation, students must complete a reading portfolio documenting their work in the program and related work experiences and pass the Virginia Reading Assessment. The M.Ed. in Reading is an approved program (K-12) for students who meet Virginia State Department of Education requirements. The reading specialist endorsement also requires completion of three years of teaching in a reading-related field.

A cooperative agreement has been established with Virginia State University to permit selected, qualified students to complete the M.Ed. in Reading program. Up to 12 credit hours from an approved list may be transferred from the cooperating institution. Interested students should contact the Department of Teaching and Learning.

**Student learning outcomes**

1. **Demonstrate content knowledge in reading education.** Candidates demonstrate content knowledge in reading education as evidenced by the Reading for Virginia Educators/Virginia Reading Assessment scores and Philosophy of Reading Paper.
2. **Effectively plan instruction.** Candidates demonstrate that they can effectively plan reading and literacy instruction or fulfill other professional responsibilities in reading education as evidenced by the Organizing and Implementing Reading Programs assessment.
3. **Effectively apply knowledge, skills and dispositions.** Candidates demonstrate that knowledge, skills and dispositions are applied effectively in practice as evidenced by the internship evaluation.
4. **Effect on student learning.** Candidates demonstrate effects on student learning and provision of supportive learning environments for student learning as evidenced by the Internship Progress Report.
5. **Candidates demonstrate IRA standards proficiency.** Candidates further demonstrate proficiency on IRA competencies as evidenced by the Portfolio assessment and the Externship Action Research Report and Presentation assessment.

Credits

**Foundations core**

9

## Research

EDUS 660 Research Methods in Education

## Human development and learning (choose one)

EDUS 602 Adolescent Growth and Development

EDUS 603 Seminar in Child Growth and Development

EDUS 604 Adult Development

EDUS 607 Advanced Educational Psychology

EDUS 609 Learning Theories in Education

## Cultural, historical and philosophical (choose one)

EDUS 601 Philosophy of Education

EDUS 608 History of Western Education

EDUS 610 Social Foundations of Education

EDUS 612 Education and the World's Future

EDUS 614 Contemporary Educational Thought

EDUS 673 Seminar on Educational Issues, Ethics and Policy

**Program core**

18

READ 600 Analysis and Correction of Reading Problems

READ 605 Organizing and Implementing Reading Programs

READ 672 Internship  
 READ 700 Externship  
 TEDU 561 Reading Foundations: Sociological/  
 Psychological Perspectives\*  
 TEDU 562 Reading Instruction in the Content Areas\*

**Restricted selectives****6**

READ 601 Psycholinguistics and Language Arts  
 Curriculum  
 READ 602 Literacy for Adults  
 TEDU 525 Teaching Language Arts  
 TEDU 526 Word Study  
 TEDU/ENGL 528 Children's Literature II  
 TEDU 549 Diagnostic Reading in the Secondary School  
 TEDU/ENGL/LING 552 Teaching English as a Second  
 Language\*

(Note: Students' advisers may designate an alternate 3-credit course elective as  
 a substitute for one of the restricted selectives above.)

\*These courses may also count as part of the ESL endorsement.

**TESOL concentration in the M.Ed. in Reading****K-12 track**

Students who already have their K-12 initial licensure and want to pursue an  
 endorsement in teaching English as a second language in the K-12 setting may do  
 so in the K-12 track of the TESOL concentration in the M.Ed. in Reading. The  
 following are prerequisites to the track: LING/ENGL 390 and 6 credits of foreign  
 language. Students who pursue this track will **not** be endorsed as a K-12 reading  
 specialist. Students interested in pursuing both endorsements must take the  
 following 9 credit hours in addition to the ones listed below: READ 600, READ  
 605 and READ 700.

**9****Foundations core****Research**

EDUS 660 Research Methods in Education

**Human development and learning (choose one)**

EDUS 602 Adolescent Growth and Development  
 EDUS 603 Seminar in Child Growth and Development  
 EDUS 607 Advanced Educational Psychology for  
 Elementary Teachers  
 EDUS 609 Learning and Motivation in Education

**Cultural, historical and philosophical (choose one)**

EDUS 601 Philosophy of Education  
 EDUS 608 History of Western Education  
 EDUS 610 Social Foundations of Education  
 EDUS 612 Education and the World's Future  
 EDUS 614 Contemporary Educational Thought  
 EDUS 673 Seminar on Educational Issues, Ethics and  
 Policy

**Program core****24**

ENGL/LING 532 Applied English Linguistics  
 READ 672 Internship

TEDU 552 Teaching English as a Second Language  
 TEDU 561 Reading Foundations: Sociological/  
 Psychological Perspectives\*  
 TEDU 562 Reading Instruction in the Content Areas\*  
 TEDU 575 Intercultural Communication  
 TEDU/LING 650 Second Language Acquisition  
 TEDU 681 Investigations and Trends in Teaching

\*These courses may also count as part of the ESL endorsement.

**Adult track**

Students who are interested in teaching English as a second language to adults  
 may develop their knowledge and skills in the adult track of the TESOL  
 concentration in the M.Ed. in Reading. Those who are interested in pursuing an  
 endorsement in teaching English as a second language in the adult setting must  
 already have their K-12 initial licensure and adult education endorsement. The  
 following are prerequisites to the track: LING/ENGL 390 and 6 credits of foreign  
 language. Students who pursue this track will **not** be endorsed as a K-12 reading  
 specialist.

**Foundations core****9****Research**

EDUS 660 Research Methods in Education

**Human development and learning**

ADLT 601 Adult Learning and Development

**Cultural, historical and philosophical (choose one)**

EDUS 601 Philosophy of Education  
 EDUS 608 History of Western Education  
 EDUS 610 Social Foundations of Education  
 EDUS 612 Education and the World's Future  
 EDUS 614 Contemporary Educational Thought  
 EDUS 673 Seminar on Educational Issues, Ethics and  
 Policy

**Program core****24**

ADLT 608 Adult Education Practicum  
 ENGL/LING 532 Applied English Linguistics  
 READ 602 Literacy for Adults  
 TEDU 552 Teaching English as a Second Language  
 TEDU 561 Reading Foundations: Sociological/  
 Psychological Perspectives  
 TEDU 575 Intercultural Communication  
 TEDU 650 Second Language Acquisition  
 TEDU 681 Investigations and Trends in Teaching

\*This course may also count as part of the ESL endorsement.

**Reading Specialist, Certificate in (Post-master's  
 certificate)**
**Admission requirements summary**

Reading Specialist, Certificate in (Post-master's certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT



The certificate program is offered for individuals who aspire to become reading specialists. Applicants for the certificate program must hold a master's degree in any specialty area related to education.

The certificate program is designed for students who wish to gain state licensure as a reading specialist in kindergarten through high school settings. Applicants are required to have at least three years of teaching experience in a reading-related field setting if they want to be recommended to the Department of Education for endorsement as a reading specialist in Virginia.

All requirements for admission to graduate school apply to applicants for the Post-master's Certificate in Reading Specialist. All state department requirements for reading specialist (specifically the 12 hours of graduate or undergraduate work in selected areas) must be met.

Students are required to earn a minimum of 24 graduate hours beyond their current master's degree, including the required reading courses, an approved reading selective and an elective in the School of Education that has been approved by the adviser. Advisers will recommend selective courses based upon student experience and goals. During the last semester of course work, students must complete a reading portfolio documenting their work in the program and related work experiences and pass the Virginia Reading Assessment. See adviser for specific due date. Candidates must receive a passing score on the Virginia Reading Assessment as a graduation requirement.

Persons completing the program are expected to demonstrate:

- An understanding of the reading language learning process
- The ability to critique, adapt and model use of a variety of reading instructional strategies, methods and programs
- Expertise in developing and providing for continuous assessment of an individual and groups
- Ability to implement school-wide developmental, creative and intervention reading/language arts programs
- Ability to understand and apply theory to practice within a variety of cultural contexts

#### Student learning outcomes

1. **Demonstrate content knowledge in reading education.** Candidates demonstrate content knowledge in reading education as evidenced by the Reading for Virginia Educators/Virginia Reading Assessment scores and the Philosophy of Reading Paper.
2. **Effectively plan instruction.** Candidates demonstrate that they can effectively plan reading and literacy instruction, or fulfill other professional responsibilities in reading education as evidenced by the Organizing and Implementing Reading Programs assessment.
3. **Effectively apply knowledge, skills and dispositions.** Candidates demonstrate knowledge, skills and dispositions are applied effectively in practice as evidenced by the internship evaluation.
4. **Effect on student learning.** Candidates demonstrate effects on student learning and provision of supportive learning environments for student learning as evidenced by the Internship Progress Report.
5. **Candidates demonstrate IRA standards proficiency.** Candidates further demonstrate proficiency on IRA competencies as evidenced by the portfolio assessment and the Externship Action Research Report and Presentation assessment.

#### Credits

##### Required content courses

READ 600 Analysis and Correction of Reading Problems	3
READ 605 Organizing and Implementing Reading Programs	3
READ 700 Externship	3
TEDU 561 Reading Foundations: Sociological/Psychological Perspectives*	3
TEDU 562 Reading Instruction in the Content Areas*	3
TEDU 672 Internship	3
Approved literacy selective (select one of the following)	3

READ 601 Psycholinguistics and Language Arts Curriculum (3)

READ 602 Literacy for Adults (3)

TEDU 500 Workshop in Education: topics in literacy (to be designated) (3)

TEDU 525 Teaching Language Arts (3)

TEDU 526 Word Study (3)

TEDU 528/ENGL 528 Children's Literature II (3)

TEDU 549 Diagnostic Reading in the Secondary School (3)

TEDU /ENGL/LING 552 Teaching English as a Second Language (3)\*

TEDU 681 Investigations and Trends in Teaching

Elective

3

Electives should be used to ensure state regulations for the endorsement are met.

\*These courses may also count as part of the ESL endorsement.

Endorsement in teaching English as a second language

Students who want to pursue an endorsement in teaching English as a second language may do so in conjunction with the M.Ed. in Reading. The endorsement requires 24 credit hours of study, none of which may be part of the master's degree if TEDU 552 is selected as the restricted elective. Nine additional hours of ESL course work and six hours of a modern foreign language are also required. For additional information, see the school's [Added or add-on endorsements page](#) in this Bulletin or contact Valerie Robnolt, Ph.D., at [vjrobnolt@vcu.edu](mailto:vjrobnolt@vcu.edu).

### Teaching, Certificate in (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Teaching, Certificate in (Post-baccalaureate graduate certificate)			
Indicate specialization: Secondary Education			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall Spring Summer	Mar 15 Nov 1 Mar 15	GRE or MAT

The Post-baccalaureate Certificate in Teaching program is designed for students who have earned bachelor's degrees in fields other than education, who wish to become teachers in secondary schools in one or more subjects and for whom a master's degree is not a priority (applicants already may have earned a master's degree or wish to earn a master's degree in a specialized area of education later). Applicants must have a major or its equivalent in the subject they wish to teach.

Students are required to complete a minimum of 24 hours beyond the bachelor's level, including the courses listed below. Equivalent courses taken within the past five years may transfer; however, a minimum of 27 credit hours, including clinical experiences, must be taken at VCU after admission to the program.

Persons completing the program are expected, among other attributes, to have an understanding of human development and learning theory appropriate to the age group they will teach, to demonstrate knowledge of the subjects they will teach, to develop an understanding of purposes for education and a defensible philosophical approach toward teaching, to acquire awareness of the diversity of the school-age population in cultural background and styles of learning, to demonstrate an ability to plan and implement effective teaching, and to measure student learning in ways that lead to sustained development and learning.

There are several tests that students must pass for admission to teacher preparation, admission to student teaching and licensure in Virginia. Students should consult the [Student Services Center](#) section on the School of Education website for current testing requirements.

#### Student learning outcomes

Persons completing the program are expected, among other attributes, to:

- Have an understanding of human development and learning theory appropriate to the age group they will teach
- Demonstrate knowledge of the subjects they will teach
- Develop an understanding of purposes for education and a defensible philosophical approach toward teaching
- Acquire awareness of the diversity of the school-age population in cultural background and styles of learning
- Demonstrate an ability to plan and implement effective teaching
- Measure student learning in ways that lead to sustained development and learning

**Secondary education, 6-12****Foundations (6 credits)**

EDUS 602 Adolescent Growth and Development or	Credits
EDUS 607/PSYC 607 Advanced Educational Psychology (choose one)	3
EDUS 673 Seminar on Education Issues, Ethics and Policy	3

**Curriculum and instruction/clinical (18 credits)**

TEDU 537 Secondary School Curriculum	3
TEDU 310 Practicum (taken concurrently with TEDU 537)	2
TEDU 54X (choose discipline for which certification sought)	3
TEDU 540 Teaching Middle and High School Sciences	
TEDU 545 Teaching Secondary School Mathematics	
TEDU 547 Teaching Secondary School Social Studies	
TEDU 548 Teaching Secondary School English	
TEDU 310 Practicum (appropriate section for teaching discipline and taken concurrently with TEDU 54X)	1
TEDU 562 Reading Instruction in the Content Areas	3
TEDU 588 Classroom Management	3
TEDU 681 Investigation and Trends in Teaching	3

**Clinical (9 credits)**

TEDU 672 Internship	4
TEDU 674 Internship II	5

<b>Total</b>	<b>33</b>
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**Teaching, Master of (M.T.)****Admission requirements summary**

<b>Teaching, Master of (M.T.)</b>			
Indicate specialization: early and elementary education, health and physical education, or secondary education, 6-12			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.T.	Fall	Mar 15	GRE or MAT
	Spring	Nov 1	
	Summer	Mar 15	

The Master of Teaching curricula are designed to incorporate eligibility for initial teaching licensure in Virginia in early and elementary, secondary education (biology, chemistry, earth science, English, history, history and social studies, mathematics, physics) or health and physical education.

The approved curricula include undergraduate qualifying courses as well. Individuals pursuing the extended program are awarded undergraduate and graduate degrees simultaneously; baccalaureate degree recipients who meet the admission criteria also may pursue the Master of Teaching degree program, including the qualifying courses. The combined baccalaureate and Master of Teaching program requires a minimum of 153/154 hours, at least 33 of which must be at the graduate level.

There are several tests that students must pass for admission to teacher preparation, admission to student teaching and licensure in Virginia. Students should consult the [Student Services Center](#) section on the School of Education website for current testing requirements.

**Student learning outcomes****Early and elementary education**

1. **Candidates will master content knowledge.** Candidates demonstrate content knowledge in the disciplines to be taught in an elementary classroom as evidenced by performance on Praxis II and the liberal arts equivalency GPA.
2. **Candidates demonstrate ability to plan instruction.** Candidates demonstrate that they can effectively plan classroom-based instruction as evidenced by the Read Aloud Lesson Plan.
3. **Measure candidate performance in internship.** Candidates demonstrate application of knowledge, skills and dispositions in practice as evidenced by the clinical evaluation continuum.
4. **Assess candidate effect on student learning.** Assess candidate's effect on student learning as evidenced by success on the Practicum B Lesson Plans in Math, Science and Social Studies.
5. **Assess candidate success on developmental project.** Candidates will demonstrate competence in developing unit lesson plans as evidenced by the TEDU 414 unit plan.
6. **Assess candidate success on activity project.** Candidates will demonstrate competence in developing student activity plans by success on the Health and PE Movement Experience Activity project.
7. **Assess ability to integrate the arts in lesson.** Demonstrate that candidates know, understand and use basic communication in the arts, can analyze art from structural, historical and cultural perspectives, and has an informed acquaintance with art from varied cultural and historical periods, and further demonstrate that candidates are able to integrate art in a basic content lesson by success on the Learning Center Notebook project.

**Health and physical education:**

The health and physical education concentration of the Master of Teaching program will be closed upon completion of the teach out plan for students enrolled in the Bachelor of Science in Health, Physical Education and Exercise Science general health and physical education concentration, which will suspend admissions effective spring 2014.

**Secondary education, 6-12****English education**

1. **Candidates demonstrate content knowledge in English.** Candidates demonstrate content knowledge in the English language arts as evidenced by Praxis II scores and the undergraduate transcript analysis.
2. **Candidates demonstrate ability to plan instruction.** Candidates demonstrate that they can effectively plan classroom-based instructions evidenced by the lesson plan assessment, lesson plan portion of the portfolio, and the Clinical Evaluation Continuum.
3. **Measure candidate performance in internship.** Candidates demonstrate that knowledge, skills and dispositions are applied effectively in practice as evidenced by the Clinical Evaluation Continuum.
4. **Assess candidate effect on student learning.** Candidates demonstrate effect on student learning as evidenced by success on the lesson plan portion of the portfolio.
5. **Candidates demonstrate NCTE standards proficiency.** Candidates further demonstrate proficiency on NCTE competencies as evidenced by the Dispositions Assessment.

**History education**

1. **Demonstrate content knowledge in social studies.** Candidates demonstrate content knowledge in social studies as evidenced by the Praxis II scores unit plan assessment in TEDU 547.
2. **Can effectively plan classroom-based instruction.** Candidates demonstrate that they can effectively plan classroom-based instruction as evidenced by the lesson plan assessments in TEDU 547 and TEDU 681.
3. **Student teaching: Effectively apply knowledge, skills and dispositions.** Candidates demonstrate that knowledge, skills and dispositions are applied effectively in practice as evidenced by clinical evaluations.
4. **Demonstrate effects on student learning.** Candidates demonstrate effects on student learning as evidenced by the portfolio: student work, reflections, case study and rubric for student teaching.
5. **Candidates demonstrate NCSS standards proficiency.** Candidates further demonstrate proficiency on NCSS competencies as evidenced by the unit

plan assessment in TEDU 547. This objective addresses NCATE Standard 1: “Candidate Knowledge, Skills and Dispositions.”

### Mathematics education

1. **Demonstrate content knowledge in mathematics.** Candidates demonstrate content knowledge in mathematics as evidenced by the Praxis II scores and undergraduate mathematics GPAs. This objective addresses NCATE Standard 1: “Candidate Knowledge, Skills and Dispositions.”
2. **Can effectively plan classroom-based instruction.** Candidates demonstrate that they can effectively plan classroom-based instruction as evidenced by the unit lesson plans, student handouts, assessments and video tape portions of the portfolio assessment.
3. **Student teaching: Effectively apply knowledge, skills and dispositions.** Candidates demonstrate that knowledge, skills and dispositions are applied effectively in practice as evidenced by clinical evaluations.
4. **Demonstrate effects on student learning.** Candidates demonstrate effects on student learning as evidenced by lesson plan portion of the portfolio assessment and the clinical evaluation continuum.
5. **Candidates demonstrate NCTM standards proficiency.** Candidates further demonstrate proficiency on NCTM competencies as evidenced by the technology lesson plans and the problem-solving lesson plans.

### Science education

1. **Demonstrate content knowledge in science.** Candidates demonstrate content knowledge in science as evidenced by the Praxis II scores.
2. **Demonstrate conceptual content knowledge.** Candidates gain knowledge of the conceptual science and related fields, and are well prepared in the breadth of knowledge needed to teach in their fields of licensure as evidenced by GPA in major courses.
3. **Can effectively plan classroom-based instruction.** Candidates demonstrate the ability to plan effective classroom-based instruction and design assessments consistent with goals of the National Science Education Standards as evidenced by the unit plan assessment.
4. **Student teaching: Effectively apply knowledge, skills and dispositions.** Candidates demonstrate knowledge, skills and dispositions are applied effectively in practice as evidenced by the clinical evaluation.
5. **Demonstrate effects on student learning.** Candidates demonstrate positive effects on student learning of major concepts, principles, theories and laws; the unifying concepts of science; the nature of science; the practice of inquiry (including student engagement in inquiry); analysis of issues related to science and technology and the impact of science on themselves and their community as evidenced by the “Assessing Student Learning” portion of the clinical evaluation.
6. **Preparation for legal, ethical and safety issues.** Candidates demonstrate preparation in legal issues, safety and ethical treatment of living things as evidenced by the safety module assessment.
7. **Knowledge of research and investigation in science.** Candidates demonstrate knowledge of research and investigation in science and understand multiple forms of scientific inquiry; can design, conduct and report research in their field; and can use mathematics and appropriate technology to collect, process and explain data as evidenced by the student-generated research assessment.
8. **Knowledge of the contextual content of science.** Candidates demonstrate knowledge of the contextual content of science and have a strong understanding of the socially relevant issues, social context, history, philosophy and applications of science as evidenced by the Nature of Science Reflection assignment.

## Admission

Admission criteria for holders of baccalaureate degrees are the same as for the extended program, including admission to teacher preparation.

### Liberal arts requirements

Additionally, individuals pursuing licensure must have a liberal arts degree, as defined by VCU, germane to what they propose to teach: for secondary, a major in the subject to be taught; for middle, a major in one of the subjects traditionally taught in middle grades (English, mathematics, history and social studies, or a

science); for early childhood/elementary or special education, a major in one of the content areas typically taught (mathematics, a science, English, history or a social science) is particularly appropriate, but majors in other liberal arts areas are acceptable.

Individuals who do not hold such a degree may satisfy it as follows:

- for middle or secondary education, the required and, as appropriate, cognate courses in the pertinent academic major.
- for early childhood/elementary, a liberal arts equivalency totaling at least 70 arts and sciences semester credits and consisting of no less than six hours in English (including composition), six hours in mathematics and statistics, three hours in human behavior and institutions, 12 hours in humanities, and 12 hours in science (with at least one laboratory course in a life science and another laboratory course in a physical science); and the remaining 31 credits from courses in literature, history, art or music history, foreign languages, philosophy and religious studies, African American studies, anthropology, economics, geography, international studies, political science, psychology, sociology, urban studies, women’s studies, or classical studies.

Additional information about the liberal arts requirements for early childhood/elementary, middle and secondary is listed under the pertinent program in the Department of Teaching and Learning section of the [Undergraduate Bulletin](#).

See the [Undergraduate Bulletin](#) for detailed information on the requirements of the various baccalaureate degrees in the College of Humanities and Sciences.

### State licensure examination

Successful completion (defined as meeting or exceeding the scores established by the Virginia State Board of Education) on the state-mandated licensure examination, currently Praxis I, is required for admission to teacher preparation. Students must be admitted to teacher preparation before enrolling in any clinical course, including practica and corequisites to clinical courses.

Requirements for both initial licensure and added endorsements include taking and achieving state-established pass scores on the Praxis II specialty area tests.

### Standards of Learning

Much of the pre-kindergarten through grade 12 curriculum is based on the commonwealth of Virginia’s current Standards of Learning (SOLs). Individuals preparing to be teachers are advised to examine the SOLs for the grade levels and content areas they plan to teach. Since the content and concepts associated with one or more SOLs may be incorporated into a course in the College of Humanities and Sciences curriculum and not a college curriculum, one may need to study several of these SOLs on his/her own. The Department of Teaching and Learning Web site, connected to the School of Education Web page has a link to the SOLs.

### Technology standards

The use of computers, graphing calculators, science probeware and other technologies is integral to successful teaching in today’s schools. Individuals preparing to teach must be competent on each of the eight standards in Virginia’s Technology Standards for Instructional Personnel. These standards may be reached through the Department of Teaching and Learning Web page.

Students are advised to consult with the professional studies adviser regarding the program’s requirements for demonstrating competence. Several of the standards may be documented as met by passing the Computer Literacy Examination offered online through Knowlgenet.

## Early and elementary education

Freshman students bound for the Master of Teaching program with a concentration in early and elementary education are required to enroll in the Bachelor of Interdisciplinary Studies — liberal studies for early and elementary education major. This program offers liberal studies curriculum designed through an interdisciplinary collaboration among professors in the College of Humanities and Sciences and the School of Education in consultation with successful area teachers. It targets core knowledge across the four major subject areas represented in Virginia’s Standards of Learning (mathematics, sciences, social sciences and language arts/communication) while also providing a university-level skill set and knowledge base. Throughout the undergraduate program, contact with area schools and young learners is programmed into service and experiential learning venues.

Transfer students intending to be elementary teachers (and completing the Master of Teaching in Early and Elementary Education) are required to meet with advisors for the LSEEE track prior to registering for courses. Advisors will evaluate all courses successfully completed outside of the LSEEE track prescribed curriculum (from VCU or elsewhere) to determine their transferability to the LSEEE track.

Majors are encouraged to select at least one minor in order to deepen knowledge and appreciation of a subject area. Philosophy, religious studies, African American studies and international studies have relevance in their understanding of human investigation of knowledge, human behavior and world cultures. A minor in a science area like environmental studies may be more “employable” because of school and societal concerns about our planet and its preservation. Whatever the humanities and sciences minor, the choice should be based on the student’s interest and perceived relevance.

Consult with the appropriate professional studies adviser for additional information regarding professional studies and liberal arts requirements.

#### Program requirements – mathematics and statistical reasoning

The general education requirement is three to six credits; the Early Childhood/Elementary Education Program requirement is six credits, including three credits in mathematics at the college algebra level or higher and three credits in a statistics course typically taught by a college department of mathematics. Choosing among these courses is recommended:

MATH 131 Introduction to Contemporary Mathematics  
STAT 208 Statistical Thinking  
STAT 210 Basic Practice of Statistics

#### Program requirements – natural sciences

The general education requirement is seven to nine credits, with one course each from the physical sciences and the biological sciences, with at least one laboratory; the program requirement is 12 credits, again with at least one course each in the physical sciences and the biological sciences, and two laboratories. Choosing among these courses is recommended:

	Credits
<b>Biological sciences</b>	
BIOL and BIOZ 101 Biological Concepts and Laboratory	4
BIOL 102 and BIOZ 102L Science of Heredity and Laboratory	5
BIOL/ENVS 103	
Environmental Science and Laboratory	5
<b>Physical sciences</b>	
CHEM 110 and CHEZ 110L Chemistry and Society and Laboratory	3
CHEM 112 Chemistry in the News	3
PHYS 101 and PHYZ 101L Foundations of Physics and Laboratory	4
PHYS 107 Wonders of Technology	4

#### Program requirements – applied arts

Two to three credits in applied arts to be designated with the professional studies adviser.

#### Professional studies requirements (58-59 credits)

	Credits
<b>Undergraduate credits</b>	
EDUS 301 Human Development and Learning or PSYC 301 Child Psychology	3
HPEX 390 Physical Education for the Elementary Teacher	3
TEDU 310 Practicum A (taken with TEDU 414 and TEDU 426)	2
TEDU 310 Practicum B (taken with TEDU 517, 522 and 591)	2
TEDU/ENGL 386 Children’s Literature I	3
TEDU 410 Classroom Management in Elementary Schools	3
TEDU 411, ARTE 301 or other applied arts	2-3
TEDU 414 Curriculum and Methods for Young Children	4
TEDU 426 Teaching Reading and Other Language Arts	3
	25-26

#### Graduate credits

EDUS 607/PSYC 607 Advanced Educational Psychology	3
EDUS 673 Seminar on Educational Issues Ethics and Policy	3

SEDP 505 Theory and Practice of Educating Individuals with Special Needs	3
TEDU 517 Science Education in the Elementary School	3
TEDU 522 Teaching Mathematics for Elementary Education	3
TEDU 566 Diagnosis and Remediation in Reading	3
TEDU 591 Social Studies Education in the Elementary School	3
TEDU 626 Home-school Communication and Collaboration	3
TEDU 672 Internship I	4
TEDU 674 Internship II	4
TEDU 681 Investigations and Trends in Teaching	1
	33

Note: At least 33 credit hours must be taken at the graduate level.

### Health and physical education

The health and physical education concentration of the Master of Teaching program will be closed upon completion of the teach out plan for students enrolled in the Bachelor of Science in Health, Physical Education and Exercise Science general health and physical education concentration, which will suspend admissions effective spring 2014.

The Master of Teaching program with a concentration in health and physical education provides advanced course work in the application of health and movement science principles to health and physical education pedagogy. Students seeking an M.T. with the health and physical education concentration are required to complete the Bachelor of Science in Health, Physical Education and Exercise Science general health and physical education track. Students with an undergraduate degree in health and physical education or related degrees are encouraged to meet with an adviser prior to applying to graduate school.

#### Program requirements

The undergraduate program requires 120/121 credits. To view undergraduate requirements, please see the [general health and physical education track of the B.S. in Health and Physical Education](#) of this Bulletin.

Graduate requirements are as follows:

	Credits
EDUS 607/PSYC 607 Advanced Educational Psychology	3
EDUS 673 Seminar on Educational Issues Ethics and Policy	3
HEMS 622 Teaching Elementary Health and Physical Education	3
HEMS 623 Teaching Health Education	3
HEMS 624 Teaching Physical Education	3
SEDP 505 Theory and Practice of Educating Individuals with Special Needs	3
TEDU 562 Reading Instruction in the Content Area	3
TEDU 672 Internship I	4
TEDU 674 Internship II	5
TEDU 681 Investigations and Trends in Teaching	3
<b>Total</b>	<b>33</b>

### Secondary education, 6-12

The Master of Teaching program includes curricula that lead to endorsement in one of the following disciplines: biology, chemistry, drama, earth science, English, history/social studies, mathematics and physics.

In order to enroll in the program, students must apply and be accepted to both the Extended Teacher Preparation Program and the Graduate School. [Admission information](#) for the [Extended Teacher Preparation Program](#) is available in the School of Education section of this Bulletin.

#### Student teaching requirements

All students pursuing a secondary education endorsement within the Master of Teaching program will student teach in the spring semester only. To do so, students must take and pass the VCLA and their subject-specific Praxis II exams before the fall semester of the academic year in which they will student teach.

#### Concentrations (endorsement disciplines)

- [English](#)
- [History/social studies](#)
- [Mathematics](#)



- [Sciences of biology, chemistry, earth science and physics](#)

### English curriculum

**Qualifying courses** (taken as an undergraduate)  
EDUS 301 Human Development and Learning

Admission to teacher preparation is a prerequisite for the following courses  
TEDU 310 Practicum\* (secondary; must be taken concurrently with TEDU 537)  
TEDU 537 Secondary School Curriculum\*  
TEDU 310 Practicum\* (English; must be taken concurrently with TEDU 548)  
TEDU 548 Teaching Secondary School English\* (fall only)

**Required courses**  
EDUS 617/PSYC 657 Advanced Educational Psychology for Secondary Teachers  
EDUS 673 Seminar on Educational Issues, Ethics and Policy  
ENGL/ENED 601 Young Adult Literature  
TEDU 562 Reading Instruction in the Content Area  
TEDU 588 Classroom Management

**Clinical experience** (spring only)  
TEDU 672 Internship  
TEDU 674 Internship II  
TEDU 681 Investigation and Trends in Teaching (English; must be taken concurrently with TEDU 672 and TEDU 674)

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### History/social studies curriculum

**Qualifying courses** (taken as an undergraduate)  
EDUS 301 Human Development and Learning

Major courses  
As undergraduate history majors  
Political science (12 credits) – including 6 credits 100-level U.S. and international politics and 6 credits 300-level local and international politics  
Geography (9 credits) – including 3 credits of physical geography and 6 credits of cultural geography  
Economics (6 Credits) – macro- and microeconomics  
As undergraduate political science majors  
History (18 credits)  
Geography (9 credits) – including 3 credits of physical geography and 6 credits of cultural geography  
Economics (6 Credits) – macro- and microeconomics  
Admission to teacher preparation is a prerequisite for the following courses  
TEDU 310 Practicum\* (secondary; must be taken concurrently with TEDU 537)  
TEDU 537 Secondary School Curriculum\*  
TEDU 310 Practicum\* (history/social studies; must be taken concurrently with TEDU 547)  
TEDU 547 Teaching Secondary School Social Studies\* (fall only)

**Required courses**  
EDUS 617/PSYC 657 Advanced Educational Psychology for Secondary Teachers  
EDUS/PSYC 607 Advanced Educational Psychology  
EDUS 673 Seminar on Educational Issues, Ethics and Policy  
TEDU 562 Reading Instruction in the Content Area  
TEDU 588 Classroom Management

**Electives** (choose one of the following courses)  
EDUS 610 Social Foundations of Education  
SEDP 505 Theory and Practice of Educating Individuals with Special Needs  
SEDP 531 Educational Foundations for Collaboration and Universally Designed Learning  
TEDU 556 Advanced Computer Applications in Education  
SEDP 631 Classroom Management and Behavior Support for Students with Disabilities

**Clinical experience** (spring only)  
TEDU 672 Internship  
TEDU 674 Internship II  
TEDU 681 Investigation and Trends in Teaching (social studies; must be taken concurrently with TEDU 672 and TEDU 674)

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### Mathematics curriculum

**Qualifying courses** (taken as an undergraduate)  
EDUS 301 Human Development and Learning

Major courses  
As undergraduate mathematics majors  
Students should be enrolled in VCU's 41-credit [secondary mathematics teacher preparation concentration](#) within the baccalaureate mathematics program or have completed a degree in mathematics from an accredited university as a prerequisite to the M.T. degree program.  
Admission to teacher preparation is a prerequisite for the following courses  
TEDU 310 Practicum\* (secondary; must be taken concurrently with TEDU 537)  
TEDU 537 Secondary School Curriculum\*  
TEDU 310 Practicum\* (mathematics; must be taken concurrently with TEDU 545)  
TEDU 545 Teaching Secondary School Mathematics\* (fall only)

**Required courses**  
EDUS 617/PSYC 657 Advanced Educational Psychology for Secondary Teachers  
EDUS 673 Seminar on Educational Issues, Ethics and Policy  
TEDU 521 Teaching Mathematics for Middle Education  
TEDU 562 Reading Instruction in the Content Area  
TEDU 588 Classroom Management

**Clinical experience** (spring only)  
TEDU 672 Internship  
TEDU 674 Internship II  
TEDU 681 Investigation and Trends in Teaching (mathematics; must be taken concurrently with TEDU 672 and TEDU 674)

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### Science curriculum

**Qualifying courses** (taken as an undergraduate)  
EDUS 301 Human Development and Learning

Major courses  
As undergraduate science majors  
Biology – genetics/molecular biology, botany, zoology, anatomy/human physiology, ecology, two physics and one earth science  
Chemistry – inorganic chemistry, organic chemistry, physical chemistry, analytical chemistry, two physics, two general biology and one earth science  
Earth science – oceanography, meteorology/climatology, astronomy, geology, ecology, two general biology, two physics and two general chemistry  
Physics – mechanics, electricity and magnetism, optics, two general biology, two general chemistry, and one earth science  
Admission to teacher preparation is a prerequisite for the following courses  
TEDU 310 Practicum\* (secondary; must be taken concurrently with TEDU 537)  
TEDU 537 Secondary School Curriculum\*  
TEDU 310 Practicum\* (science; must be taken concurrently with TEDU 540)  
TEDU 540 Teaching Middle and High School Sciences\* (fall only)

**Required courses**  
EDUS 617/PSYC 657 Advanced Educational Psychology for Secondary Teachers  
EDUS 673 Seminar on Educational Issues, Ethics and Policy  
TEDU 562 Reading Instruction in the Content Area  
TEDU 588 Classroom Management  
**Clinical experience** (spring only)  
TEDU 672 Internship  
TEDU 674 Internship II  
TEDU 681 Investigation and Trends in Teaching (social studies; must be taken concurrently with TEDU 672 and TEDU 674)

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**VCU**

**Make it real.**

## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Engineering**

Through teaching and research, the VCU School of Engineering creates knowledge and transforms ideas in engineering and life sciences into technologies that enhance regional and global prosperity. The school prepares its students for leadership and entrepreneurship through collaborative and interdisciplinary partnerships.

Founded in 1995 and graduating its first class in May 2000, the School of Engineering is the result of collaboration rare in the history of higher education in Virginia. Virginia Commonwealth University has, with the support of Virginia Polytechnic Institute and State University, created a school that brings innovative engineering and computer science education to central Virginia. Building reciprocal relationships with business and industry in the greater Richmond area, contributing to the region's manufacturing enterprises and aggressively developing an international orientation, the school has developed programs of research and study that are sensitive to the unique demands of its time and culture.

In 1998, the undergraduate degree program in biomedical engineering was added to the original engineering disciplines of chemical, electrical and mechanical engineering, which were established in 1996. The long-standing and accredited degree program of computer science was assimilated into the School of Engineering beginning with the fall 2001 semester. In 2004-05, the chemical engineering department added an emphasis in life sciences and changed its name to the Department of Chemical and Life Science Engineering.

Students are offered an integrated and multidisciplinary curriculum in biomedical, chemical and life science, computer, electrical, or mechanical engineering, or computer science. Supported by the internationally recognized strengths of MCV Hospitals and the cutting-edge developments being generated by the Virginia BioTechnology Research Park, the School of Engineering at VCU has innovative curricula that emphasize creativity and imagination. By encouraging their interaction with practicing professionals, students are continually aware of the real-world application of their research and their studies.

Serving the best and the brightest students and supporting VCU's dedication to diversity by opening doors of opportunity to underrepresented populations in the engineering and computer science professions, the school continually strives to enrich the technological and intellectual climate of the metropolitan area.

Discovering new knowledge is the goal of the best of the nation's schools. The School of Engineering at VCU celebrates not only the discovery of knowledge, but also the creative integration and application of that knowledge.

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## Administration

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**Barbara D. Boyan**  
Dean

**Afroditi V. Filippas**  
Interim Associate Dean for Administration and Finance

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## Accreditation

The Accreditation Board for Engineering and Technology is the premier organization in the U.S. that provides accreditation to engineering and computer science programs. Individual programs (i.e., mechanical engineering) are accredited at the bachelor's level.

The Engineering Accreditation Commission of ABET has accredited the Biomedical, Chemical and Life Science, Electrical and Computer, and Mechanical engineering programs at the VCU School of Engineering.

The Computer Accreditation Commission of ABET has provided accreditation to the Computer Science Program for many years.

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## Degree programs

The School of Engineering offers the following degree programs:

### Bachelor of Science

Biomedical Engineering  
Chemical and Life Science Engineering  
Computer Engineering  
Computer Science  
Electrical Engineering  
Mechanical Engineering

Students also may be admitted under "Undeclared Engineering" for entrance to the School of Engineering. A field of study can be determined after the first semester.

### Master of Science

Biomedical Engineering

Computer Science

Engineering – with tracks in:

- Chemical and Life Science Engineering
- Electrical and Computer Engineering
- Engineering

Mechanical and Nuclear Engineering

### Doctor of Philosophy

Biomedical Engineering

Engineering – with tracks in:

- Chemical and Life Science Engineering
- Computer Science
- Electrical and Computer Engineering
- Engineering
- Mechanical Engineering

### Joint degree

M.D./Ph.D. in Biomedical Engineering in participation with the School of Medicine

### Interdisciplinary and cooperative studies degree

M.S. degree through the Commonwealth Graduate Engineering Program

### Post-baccalaureate certificate

Computer Science

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## Engineering courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to engineering ([ENGR](#)) courses or the ([ENGZ](#)) laboratories.

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## Commonwealth Graduate Engineering Program

The Commonwealth Graduate Engineering Program is a collaborative effort of the University of Virginia, Virginia Commonwealth University, Virginia Polytechnic Institute and State University, Old Dominion University, and George Mason University. The University of Mary Washington participates as a funded receive site.

See the School of Engineering Graduate Programs section of this bulletin for information on VCU's graduate programs in engineering.

### Administration

**Rosalyn S. Hobson**  
Associate Dean for Graduate Studies

The VCU Commonwealth Graduate Engineering Program (CGEP) director works closely with the other CGEP directors, the VCU Dean of School of Engineering, and local businesses and industries.

## Program description

Students who have baccalaureate degrees in engineering or strong backgrounds in the sciences may work toward a master's degree in engineering on the Monroe Park Campus of VCU. Graduate engineering courses are available from the CGEP member universities via interactive television, the Web and two-way audio/video teleconferencing. In addition to the required engineering courses, elective courses are available in applied mathematics, mathematical statistics, chemistry, operations research, and physics in classes at VCU. The following academic programs are available through CGEP:

- Chemical Engineering
- Civil and Environmental Engineering
- Computer Science
- Electrical and Computer Engineering
- Engineering Management
- Industrial and Systems Engineering
- Manufacturing and Design Engineering
- Materials Sciences and Engineering
- Mechanical and Aerospace Engineering
- Modeling and Simulation

## Degree-seeking students

Students enrolling in the program should apply for admission in a given academic area of study and may select courses from any of the participating institutions, consistent with selected degree requirements.

## Nondegree-seeking students

Qualified individuals may enroll in a particular course without pursuing a formal degree program of study. Admission will be based on the individual's academic preparation and the availability of space.

## Admission requirements

Students should apply for admission to the CGEP University offering the desired degree program. Applicants should have a "B" average, but a successful professional experience may strengthen admission credentials. Three recommendations from persons who are qualified to give information concerning the applicants' probable success in the program and the completion of the Graduate Record Examination (GRE) also are required.

## Graduate information

### Registration for graduate study

In the biomedical engineering program, all new students begin their course of study in the fall semester (August). Spring semester admissions require the recommendation of the graduate program director, approval of the chair and the assistant dean for graduate affairs. Students may begin a course of study in either the fall or spring semesters for the engineering and computer science graduate programs; however, a start in the fall semester is preferred. For the CGEP, students may begin a course of study in either the fall or spring semester.

### Engineering, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Engineering, Doctor of Philosophy (Ph.D.)			
Indicate specialization: chemical and life science engineering, computer science, electrical and computer engineering, engineering, or mechanical engineering			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring (no spring entry for computer science)	Nov 15	

The School of Engineering offers a Doctor of Philosophy in Engineering with five tracks. The engineering program utilizes the faculty and research facilities of the Computer Science Department as well as those of Chemical and Life Science Engineering, Electrical and Computer Engineering, and Mechanical Engineering to expose students to advanced and emerging technologies. Research thrusts in the School of Engineering include computer science, life sciences, micro-nano technology, and manufacturing and design. Engineering Ph.D. degrees are interdisciplinary and provide a wide array of specialization areas including microelectronics, silicon fabrication, VLSI design, networks, embedded systems, image/signal processing, photonics/optical electronics, neural networks, MEMS, digital communications, micro-nanotechnology, smart materials and devices, robotics, manufacturing and design, polymers, biochips, biochemical and biological engineering, fuel cells, software engineering, parallel processing, databases, compiler theory, machine learning, and artificial intelligence. These areas cross the discipline lines of computer science, chemical, electrical, and mechanical Engineering.

For students who want to study and conduct research in these areas or related areas, the following tracks are available:

- Chemical and life science engineering track (EGRC)
- Computer science track (CMSC)-Ph.D. only
- Electrical and computer engineering track (EGRE)
- Engineering track (ENGR)
- Mechanical engineering track (EGRM)

Each track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in one of these tracks should contact the graduate program coordinator or program chair of the desired track for detailed information about that track.

#### Student learning outcomes for the chemical and life science engineering, computer science, electrical and computer engineering, and engineering tracks

1. Apply advanced knowledge of mathematics, science or engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science or engineering.
2. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.
3. Identify, formulate and solve engineering problems: Graduates will demonstrate an ability to identify, formulate and solve engineering problems.
4. Graduates demonstrate abilities in research: Graduates will demonstrate the ability to identify pertinent research problems, to formulate and execute a research plan, to generate and analyze research results, and to communicate those results through oral presentations and written publications. Graduates will be able to creatively solve the research problems posed.

#### Student learning outcomes for the mechanical engineering track

1. Apply advanced knowledge of mathematics, science or engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science or engineering.
2. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.
3. Identify, formulate and solve engineering problems: Graduates will demonstrate an ability to identify, formulate and solve engineering problems.

## General requirements for the doctoral degree in engineering

### Assistantships

A number of full or partial teaching and research assistantships are available in the engineering, biomedical engineering and computer science programs. Assistantships are awarded based on academic performance. Full support assistantships are for a 12-month period and cover tuition, fees and a stipend. A brief description of financial aid based on demonstrated need is detailed in the chapter of this bulletin regarding financial aid. Need-based aid programs include National Direct Student Loan, college work-study and institutional loans.

### The student adviser and the advisory committee

The successful completion of the requirements for the Ph.D. degree includes an original research project, the progress of which is guided by a faculty adviser and monitored by an advisory committee. Students receive guidance and counsel from the graduate program director prior to the appointment of the permanent adviser. The permanent adviser holds the primary responsibility for directing the development of the student in the program and providing the appropriate guidance and counsel essential to the scholarly development of the student. An advisory committee, appointed shortly after the permanent adviser is appointed, serves as both an examining and consultative body. Its function is to assist the development of the student. Committee members hold a special responsibility as a source of counsel for the student. For details, students should contact either the respective graduate program director or the program chair.

### Graduate degree requirements

All full-time graduate students are expected to register for a minimum of 12 hours of graduate credits per semester and at least one semester hour during the summer, exclusive of audited courses. This requirement includes research.

At least half of the credits required in the student's program must be those designated as exclusively for graduate students; that is, those at the 600 level or above.

Graduate students are required to remain in good academic standing through the course of their degree program. Unsatisfactory student performance includes:

- The assignment of a grade of U, D or F in any course
- Failure to maintain a cumulative GPA of 3.0 or greater
- Failure to pass the written or oral comprehensive examination
- Failure to pass the final examination

A student whose performance is unsatisfactory must successfully petition the dean of the Graduate School to continue in the graduate program. Unsatisfactory performance also constitutes grounds for the termination of financial assistance to the student.

Graduate students may not take the comprehensive examination for the Ph.D. degree if their overall GPA is less than 3.0 or if the GPA for courses within the program is below 3.0. Students may not take the final oral examination for the Ph.D. degree if their overall GPA is below 3.0. The student's advisory committee is the examining body for the administration of the comprehensive examinations and the final examination.

In addition to these requirements and those set forth by the university, students must meet the requirements for specific degrees set forth in the School of Engineering program listings.

### Enrollment information

#### Nondegree-seeking students

Students not admitted to a degree program must obtain permission from the program director and chair before being allowed to register for courses.

### Termination of enrollment

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct or for persistent failure to fulfill the purposes for which the student was matriculated.

## Chemical and life science engineering track

### Admission requirements summary

Engineering, Doctor of Philosophy (Ph.D.) Indicate specialization: chemical and life science engineering			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

### Typical program of study – M.S. to Ph.D. in Engineering

credits

Concentration component – CLSE course work	6
Track electives – engineering or science course work	3
Directed research – CLSE 697	21
Total (minimum)	30

Students entering the doctoral program with a B.S. degree, but not the M.S., will require a minimum of 60 post-baccalaureate credits (30 for M.S. level and an additional 30 for Ph.D. level).

### Typical program of study - B.S. to Ph.D. in Engineering

	credits
Concentration component – CLSE course work	18
Track electives – engineering or science course work	15
Directed research – CLSE 697	27
Total (minimum)	60

A minimum of three years of study, including research, is necessary to complete all requirements for the Ph.D. A period of residence of at least three consecutive semesters is required. Residency is defined as registration for at least nine credits per semester. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Ph.D.

### Curriculum

There are three components of each Ph.D. in Engineering track.

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

### Degree requirements

A minimum of 60 credit hours beyond the bachelor's degree, including research credits, is generally required for the Ph.D. in Engineering. Students holding the master's degree must complete a minimum of six semester credits in concentration course work, three credits in track elective course work and 21 semester credits in dissertation research. The student's adviser must approve all course work. Ph.D. students must take a minimum of 30 semester credits (including research) beyond the master's degree. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the chemical and life science engineering track must have a B.S. degree in chemical and life science engineering or a closely related discipline.

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the School of Engineering's associate dean for graduate studies.

### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering graduate programs, although a start in the fall semester is preferred.

### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive

exam if their overall GPA is less than 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

#### Admission to candidacy

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. A student may seek admission to candidacy for the Doctor of Philosophy degree without first completing the research and thesis portion of the Master of Science degree.

#### Dissertation research

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

### Computer science track

#### Admission requirements summary

Engineering, Doctor of Philosophy (Ph.D.) Indicate specialization: computer science			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	TOEFL for international students

Students with an M.S. degree in a field closely related to computer science, such as mathematics, physics, engineering or bioinformatics, can be accepted into the Ph.D. program. However, only outstanding students (preferably with a B.S. degree in computer science) can be admitted into the direct B.S. to Ph.D. program.

#### Typical program of study - M.S. to Ph.D. in Engineering

	credits
Concentration component - CMSC course work	6
Track electives – engineering or science course work	3
Directed research – ENGR 697	21
Total (minimum)	30

A minimum of three years of study, including research, is necessary to complete all requirements for the Ph.D. A period of residence of at least three consecutive semesters is required. Residency is defined as registration for at least nine credits per semester. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Ph.D.

#### Curriculum

There are three components of each Ph.D. in Engineering track.

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

#### Degree requirements

A minimum of 60 credit hours beyond the bachelor's degree, including research credits, is generally required for the Ph.D. in Engineering. Students holding the master's degree must complete a minimum of six semester credits in concentration course work and 21 semester credits in dissertation research. The student's adviser must approve all course work. Ph.D. students must take a minimum of 30 semester credits (including research) beyond the master's degree. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the computer science track must have a B.S. and master's degree in engineering, computer science or a closely related discipline.

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the associate dean for graduate studies.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering graduate programs, although a start in the fall semester is preferred.

#### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive exam if their overall GPA is less than 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

#### Admission to candidacy

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. A student may seek admission to candidacy for the Doctor of Philosophy degree without first completing the research and thesis portion of the Master of Science degree.

#### Dissertation research

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

#### Foundational areas for computer science graduate studies:



Foundational areas	Courses
Theory	CMSC 501 Advanced Algorithms
	CMSC 526 Theory of Programming Languages
	CMSC 620/CISS 624 Applied Cryptography
	CMSC 621 Theory of Computation
Systems	CMSC 502 Parallel Programming
	CMSC 519 Software Engineering: Specification and Design
	CMSC 608 Advanced Database
	CMSC 622 Network and Operating Systems Security
Applied computer science	CMSC/CISS 609 Advanced Artificial Intelligence
	CMSC 630 Applied Signal and Image Analysis
	CMSC 635 Knowledge Discovery and Data Mining
	CMSC 678 Statistical Learning and Fuzzy Logic Algorithms

#### Ph.D. in Engineering – computer science track program requirements:

A student may choose to pursue a Ph.D. under the guidance of a computer science graduate faculty member. Interdisciplinary programs of study that involve computer science and another discipline are encouraged; however, a core of computer science courses is required. Courses not labeled CMSC must show relevance to the student's program of study and must be submitted for approval by the computer science Graduate Committee through the student's adviser.

#### For students with M.S. in Computer Science

Students will have to satisfy the following requirements:

- A. Take a minimum of 12 credit hours of didactic course work at the graduate level and 18 credit hours of directed research for a minimum of 30 credit hours including:
  - A minimum of four courses that should satisfy the following:
    - i. At least two courses at the 600 level or greater
    - ii. At least one course from each of the following two foundation areas: theory and systems.
- B. Take and pass a written comprehensive exam (maximum of two attempts are allowed)
  - The written comprehensive examination will cover knowledge in three areas, and in order to pass students must score a minimum of 75 percent in each area.
    - i. The exam must include material based on CMSC 501 from the **theory** area and on at least one course from the **systems** area.
    - ii. The third is the area of specialization based on courses to be decided by the dissertation adviser.
  - Students are allowed to take the comprehensives based on courses they may not have taken at VCU, however, they have to satisfy the course requirements as mentioned above.
  - Students can contact the lead professor for any area and obtain a list of topics that will be covered in the exam.
  - The exam will be conducted a minimum of once a year and will be organized by the graduate director, with prior approval of the exam questions by the Graduate Committee.
  - A student who fails one area of the required three comprehensive exam areas must retake the exam in the failed area. The department will organize and schedule a special comprehensive exam for such students. A student who fails two or more exam areas must retake the entire comprehensive exam at the regularly scheduled comprehensive exam in the following year.
- C. Write and defend a dissertation proposal (oral comprehensive exam) on an original research topic.
- D. Write and publicly defend the Ph.D. dissertation.

- Since the Ph.D. is awarded for completion of work on an original research problem, peer-reviewed evidence of the quality of this work, in terms of at least one accepted journal paper or published high-quality conference paper (publications should be in a student's research area), must be approved by the dissertation committee and the Graduate Committee before the final dissertation defense can be scheduled. Specific publication requirements are available at the computer science department website as well as in the School of Engineering graduate handbook.

#### For students with a B.S. degree or students without an M.S. in Computer Science

- I. Students admitted into the Ph.D. program with a B.S. degree must satisfy the following:
  - a. Take a minimum of 60 credit hours of course work, including:
    - A minimum of 30 didactic credits, including
      - i. At least two courses from each of the three foundation areas; CMSC 501 must be one of these courses
      - ii. At least 15 credits at the 600 level or greater
    - In addition, a student admitted to this program may need to take other undergraduate computer science courses in order to prepare for the required graduate-level courses. The choice of these courses will be left to the discretion of the student's adviser.
    - A minimum of 18 credits of directed research is required.
  - b. Satisfy the criteria B through D as defined above
- II. Students admitted into the Ph.D. program without an M.S. in Computer Science must satisfy the following:
  - a. Take a minimum of 18 credit hours of course work at the graduate level and 18 credit hours of directed research for a minimum of 36 credit hours including:
    - A minimum of two courses from each of the following two foundation areas: theory and systems; CMSC 501 must be one of these courses
    - At least nine credits at the 600 level or greater
    - In addition, a student admitted to this program may need to take other undergraduate computer science courses in order to prepare for the required graduate-level courses. The choice of these courses will be left to the discretion of the student's adviser.
  - b. Satisfy the criteria B through D as defined above

#### Electrical and computer engineering track

#### Admission requirements summary

Engineering, Doctor of Philosophy (Ph.D.)			
Indicate specialization: electrical and computer engineering			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

#### Typical program of study - M.S. to Ph.D. in Engineering

	credits
Concentration component - EGRE course work	6
Track electives – engineering or science course work	3
Directed research – ENGR 697	21
Total (minimum)	30

Students entering the doctoral program with a B.S. degree, but not the M.S., will require a minimum of 60 post-baccalaureate credits (30 for M.S. level and an additional 30 for Ph.D. level).

**Typical program of study - B.S. to Ph.D. in Engineering**

	credits
Concentration component - EGRE course work	18
Track electives – engineering or science course work	15
Directed research – ENGR 697	27
Total (minimum)	60

A minimum of three years of study, including research, is necessary to complete all requirements for the Ph.D. A period of residence of at least three consecutive semesters is required. Residency is defined as registration for at least nine credits per semester. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Ph.D.

**Curriculum**

There are three components of each Ph.D. in Engineering.

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

**Degree requirements**

A minimum of 60 credit hours beyond the bachelor's degree, including research credits, is generally required for the Ph.D. in Engineering. Students holding the master's degree must complete a minimum of six semester credits in concentration course work, three credits in track elective course work and 21 semester credits in dissertation research. The student's adviser must approve all course work. Ph.D. students must take a minimum of 30 semester credits (including research) beyond the master's degree. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

**Admission requirements**

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the electrical and computer engineering track must have a B.S. degree in electrical and computer engineering or a closely related discipline.

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the associate dean for graduate studies.

**Registration**

Students may begin a course of study in either the fall or spring semesters for the engineering graduate programs, although a start in the fall semester is preferred.

**Comprehensive examinations**

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive exam if their overall GPA is less than 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

**Admission to candidacy**

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. A student may seek admission to candidacy for the Doctor of Philosophy degree without first completing the research and thesis portion of the Master of Science degree.

**Dissertation research**

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

**Engineering track****Admission requirements summary**

<b>Engineering, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: engineering			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

**Typical program of study - M.S. to Ph.D. in Engineering**

	credits
Concentration component - ENGR course work	6
Track electives – engineering or science course work	3
Directed research – ENGR 697	21
Total (minimum)	30

Students entering the doctoral program with a B.S. degree, but not the M.S., will require a minimum of 60 post-baccalaureate credits (30 for M.S. level and an additional 30 for Ph.D. level).

**Typical program of study - B.S. to Ph.D. in Engineering**

	credits
Concentration component - ENGR course work	18
Track electives – engineering or science course work	15
Directed research – ENGR 697	27
Total (minimum)	60

A minimum of three years of study, including research, is necessary to complete all requirements for the Ph.D. A period of residence of at least three consecutive semesters is required. Residency is defined as registration for at least nine credits per semester. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Ph.D.

**Curriculum**

There are three components of each Ph.D. in Engineering track.

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

### Degree requirements

A minimum of 60 credit hours beyond the bachelor's degree, including research credits, is generally required for the Ph.D. in Engineering. Students holding the master's degree must complete a minimum of six semester credits in concentration course work, three credits in track elective course work and 21 semester credits in dissertation research. The student's adviser must approve all course work. Ph.D. students must take a minimum of 30 semester credits (including research) beyond the master's degree. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the engineering track must have a B.S. degree in engineering or a closely related discipline.

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the associate dean for graduate studies.

### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering graduate programs, although a start in the fall semester is preferred.

### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive exam if their overall GPA is less than 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

### Admission to candidacy

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. A student may seek admission to candidacy for the Doctor of Philosophy degree without first completing the research and thesis portion of the Master of Science degree.

### Dissertation research

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

## Mechanical engineering track

## Admission requirements summary

Engineering, Doctor of Philosophy (Ph.D.)			
Indicate specialization: mechanical engineering			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

### Typical program of study - M.S. to Ph.D. in Engineering

	credits
Concentration component - EGRM course work, in addition to EGRM 512, taken as part of B.S. to M.S. program	6
Track electives – engineering or science course work	3
Directed research – EGRM 697	21
Total (minimum)	30

Students entering the doctoral program with a B.S. degree, but not the M.S., will require a minimum of 60 post-baccalaureate credits (30 for M.S. level and an additional 30 for Ph.D. level). All courses are expected to be of the 500 or 600 level. Additionally, all students must take EGRM 690 Mechanical Engineering Seminar each semester they are enrolled full time in the graduate program. The accumulated credits earned in the one-credit seminar do not count toward the total required to complete the graduate degree.

### Typical program of study - B.S. to Ph.D. in Engineering

	credits
Concentration component - EGRM course work, including EGRM 512	18
Track electives – engineering or science course work	15
Directed research – EGRM 697	27
Total (minimum)	60

A minimum of three years of study, including research, is necessary to complete all requirements for the Ph.D. A period of residence of at least three consecutive semesters is required. Residency is defined as registration for at least nine credits per semester. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Ph.D.

### Curriculum

There are three components of each Ph.D. in Engineering track.

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

### Degree requirements

A minimum of 60 credit hours beyond the bachelor's degree, including research credits, is generally required for the Ph.D. in Engineering. Students holding the master's degree must complete a minimum of six semester credits in concentration course work, three credits in track elective course work and 21 semester credits in dissertation research. The student's adviser must approve all course work. Ph.D. students must take a minimum of 30 semester credits (including research) beyond the master's degree. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the mechanical

engineering track must have a B.S. degree in mechanical engineering or a closely related discipline.

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the associate dean for graduate studies.

### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering graduate programs, although a start in the fall semester is preferred.

### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive exam if their overall GPA is less than 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

### Admission to candidacy

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. A student may seek admission to candidacy for the Doctor of Philosophy degree without first completing the research and thesis portion of the Master of Science degree.

### Dissertation research

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

## Engineering, Master of Science (M.S.)

### Admission requirements summary

Engineering, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

The School of Engineering offers the Master of Science in Engineering degree with either a thesis or non-thesis option in three tracks. The engineering program utilizes the faculty and research facilities of the Department of Computer Science as well as those of the departments of Chemical and Life Science Engineering, Electrical and Computer Engineering and Mechanical Engineering to expose students to advanced and emerging technologies. Research thrusts in the School of Engineering include computer science, life sciences, micro-nano technology, and manufacturing and design. Engineering M.S. and Ph.D. degrees are interdisciplinary and provide a wide array of specialization areas including

microelectronics, silicon fabrication, VLSI design, networks, embedded systems, image/signal processing, photonics/optical electronics, neural networks, MEMS, digital communications, micro-nanotechnology, smart materials and devices, robotics, manufacturing and design, polymers, biochips, biochemical and biological engineering, fuel cells, software engineering, parallel processing, databases, compiler theory, machine learning, and artificial intelligence. These areas cross the discipline lines of computer science, chemical, electrical, and mechanical engineering.

For students who want to study and conduct research in these areas or related areas, the following tracks are available:

- Chemical and life science engineering track (CLSE)
- Electrical and computer engineering track (EGRE)
- Engineering track (ENGR)

Each track can be tailored to meet the individual student's academic goals and research interests. Non-thesis and thesis students seeking to take course work or conduct their thesis/study research in one of these tracks should contact the graduate program coordinator or program chair of the desired track for more information about that track. Eighteen to 24 months of study usually are necessary to complete the requirements for the thesis-option Master of Science in Engineering degree. The non-thesis option generally requires 18 months of full-time study or up to six years of part-time study. A time limit of six calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree. Generally, a maximum of six credits of approved graduate course work required for a master's degree may be transferred from another program at VCU or outside institution and applied toward the degree.

### Student learning outcomes for the chemical and life science engineering, electrical and computer engineering, and engineering tracks

1. Apply advanced knowledge of mathematics, science or engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science or engineering.
2. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.
3. Identify, formulate and solve engineering problems: Graduates will demonstrate an ability to identify, formulate and solve engineering problems.

## General requirements

### Assistantships

A number of full or partial teaching and research assistantships are available in the engineering, biomedical engineering and computer science programs. Assistantships are awarded based on academic performance. Full support assistantships are for a 12-month period and cover tuition, fees and a stipend. A brief description of financial aid based on demonstrated need is detailed in the chapter of this bulletin regarding financial aid. Need-based aid programs include National Direct Student Loan, college work-study and institutional loans.

### The student adviser and the advisory committee

Both the thesis and non-thesis options of the M.S. degree require the appointment of a permanent adviser. Students receive guidance and counsel from the graduate program director prior to the appointment of the permanent adviser. The permanent adviser holds the primary responsibility for directing the development of the student in the program and providing the appropriate guidance and counsel essential to the scholarly development of the student. The successful completion of the requirements for the thesis-option M.S. includes an original research project, the progress of which is guided by a faculty adviser and monitored by an advisory committee. An advisory committee, appointed shortly after the permanent adviser is appointed, serves as an examining and consultative body. Its function is to assist the development of the student. Committee members hold a special responsibility as a source of counsel for the student. For details, students should contact either the respective graduate program director or the program chair.

### Graduate degree requirements

All full-time graduate students are expected to register for a minimum of nine hours of graduate credits per semester and at least one semester hour during the summer, exclusive of audited courses. This requirement includes research.

At least half of the credits required in the student's program must be those designated as exclusively for graduate students; that is, those at the 600 level or above.

Graduate students are required to remain in good academic standing through the course of their degree program. Unsatisfactory student performance includes:

- The assignment of a grade of U, D or F in any course
- Failure to maintain a minimum cumulative GPA of 3.0
- Failure to pass the final examination

A student whose performance is unsatisfactory must successfully petition the dean of the Graduate School to continue in the graduate program. Unsatisfactory performance also constitutes grounds for the termination of financial assistance to the student.

Students may not take the final oral examination for the M.S. degree if their overall GPA is below 3.0. The student's advisory committee is the examining body for the administration of the final examination. In addition to these requirements and those set forth by the university, students must meet the requirements for specific degrees set forth in the School of Engineering program listings.

#### Enrollment information

#### Nondegree-seeking students

Students not admitted to a degree program must obtain permission from the program director and chair before being allowed to register for courses.

#### Termination of enrollment

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct or for persistent failure to fulfill the purposes for which the student was matriculated.

#### Chemical and life science engineering track

	credits
Concentration component – CLSE course work	12
Track electives – engineering or science course work	12
Directed research – CLSE 697	6
Total (minimum)	30

#### Core courses, seminar and directed research

CLSE 654 Equilibrium Analysis in Chemical and Biological Systems  
 CLSE 655 Nonequilibrium Analysis in Chemical and Life Science Engineering  
 CLSE 656 Advanced Chemical Reaction Engineering  
 CLSE 690 Research Seminar in Chemical and Life Science Engineering  
 CLSE 697 Directed Research in Chemical and Life Science Engineering

#### Curriculum

There are three components of each M.S. in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the chemical and life science engineering track should contact the graduate program coordinator or department chair of Chemical and Life Science Engineering for detailed information about that track.

#### Degree requirements

Students seeking the M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses (including research). Each student must complete 12 semester credits in concentration course work, 12 semester credits in track electives course work and six semester credits in thesis research. The student's adviser must review and approve all course work and thesis research

credits. The total of all credits must be at least 30. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

Each student must conduct an original investigation under the supervision of the permanent adviser and prepare a thesis reporting the results of this research and analyzing its significance in relation to existing scientific knowledge. This study is reported in a thesis prepared in acceptable form and style. Upon approval of the thesis by the adviser, the student submits a copy to each member of the advisory committee. The student's advisory committee members examine the thesis and decide upon its acceptability. Each committee member reports to the student's adviser when the thesis is acceptable for defense. The thesis is approved for defense only if accepted unanimously. Upon approval of the thesis, the student appears for a final oral examination administered by the student's advisory committee. This examination of an M.S. candidate includes the subject matter of course work as well as the thesis.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the chemical and life science engineering track must have a B.S. degree in chemical and life science engineering or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

#### Electrical and computer engineering track

	credits
Concentration component – EGRE course work	12
Track electives – engineering or science course work	12
Directed research – ENGR 697	6
Total (minimum)	30

#### Curriculum

There are three components of each M.S. in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the electrical and computer engineering track should contact the graduate program coordinator or department chair of Electrical and Computer Engineering for detailed information about that track.

#### Degree requirements

Students seeking the M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses (including research). Each student must complete 12 semester credits in concentration course work, 12 semester credits in track electives course work and six semester credits in thesis research. The student's adviser must review and approve all course work and thesis research credits. The total of all credits must be at least 30. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

Each student must conduct an original investigation under the supervision of the permanent adviser and prepare a thesis reporting the results of this research and analyzing its significance in relation to existing scientific knowledge. This study is reported in a thesis prepared in acceptable form and style. Upon approval of the thesis by the adviser, the student submits a copy to each member of the advisory committee. The student's advisory committee members examine the thesis and



decide upon its acceptability. Each committee member reports to the student's adviser when the thesis is acceptable for defense. The thesis is approved for defense only if accepted unanimously. Upon approval of the thesis, the student appears for a final oral examination administered by the student's advisory committee. This examination of an M.S. candidate includes the subject matter of course work as well as the thesis.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the electrical and computer engineering track must have a B.S. degree in electrical and computer engineering or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

### Engineering track

	credits
Concentration component – ENGR course work	12
Track electives – engineering or science course work	12
Directed research – ENGR 697	6
Total (minimum)	30

#### Curriculum

There are three components of each M.S. in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of degree requirements under the direction of an adviser and advisory committee.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the engineering track should contact the graduate program coordinator or department chair of Engineering for detailed information about that track.

#### Degree requirements

Students seeking the M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses (including research). Each student must complete 12 semester credits in concentration course work, 12 semester credits in track electives course work and six semester credits in thesis research. The student's adviser must review and approve all course work and thesis research credits. The total of all credits must be at least 30. No elective courses may be used for both M.S. and Ph.D. degrees. At least half of the credits required in the student's program must be those designated as exclusively for graduate students, that is those at the 600 level or above.

Each student must conduct an original investigation under the supervision of the permanent adviser and prepare a thesis reporting the results of this research and analyzing its significance in relation to existing scientific knowledge. This study is reported in a thesis prepared in acceptable form and style. Upon approval of the thesis by the adviser, the student submits a copy to each member of the advisory committee. The student's advisory committee members examine the thesis and decide upon its acceptability. Each committee member reports to the student's adviser when the thesis is acceptable for defense. The thesis is approved for defense only if accepted unanimously. Upon approval of the thesis, the student appears for a final oral examination administered by the student's advisory committee. This examination of an M.S. candidate includes the subject matter of course work as well as the thesis.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the engineering track must have a B.S. degree in engineering or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

### Non-thesis option – chemical and life science engineering track

	credits
Concentration component – CLSE course work	15
Track electives – engineering or science course work	15
Total (minimum)	30

#### Core courses, seminar and directed research

CLSE 654 Equilibrium Analysis in Chemical and Biological Systems  
CLSE 655 Nonequilibrium Analysis in Chemical and Life Science Engineering  
CLSE 656 Advanced Chemical Reaction Engineering  
CLSE 690 Research Seminar in Chemical and Life Science Engineering  
CLSE 697 Directed Research in Chemical and Life Science Engineering

#### Curriculum

There are two components of non-thesis M.S. in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the chemical and life science engineering track should contact the graduate program coordinator or department chair of Chemical and Life Science Engineering for detailed information about that track.

#### Degree requirements

Students seeking the non-thesis M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses. Each student must complete 15 semester credits in concentration course work and 15 semester credits in track electives course work.

Each non-thesis student must have a plan of study by the end of the first semester or prior to completing nine credits. This plan of study (and all revisions) must be approved by the student's adviser and the assistant dean for graduate affairs of the School of Engineering. The student's adviser must review/approve all course work in advance of enrollment. At least half the credits required in the student's program must be designated as 600 level or above.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the chemical and life science engineering track must have a B.S. degree in chemical and life science engineering or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

### Non-thesis option – electrical and computer engineering track

	credits
Concentration component – EGRE course work	15
Track electives – engineering or science course work	15
Total (minimum)	30

#### Curriculum

There are two components of each non-thesis M.S. in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the electrical and computer engineering track should contact the graduate program coordinator or department chair of Electrical and Computer Engineering for detailed information about that track.

#### Degree requirements

Students seeking the non-thesis M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses. Each student must complete 15 semester credits in concentration course work and 15 semester credits in track electives course work.

Each non-thesis student must have a plan of study by the end of the first semester or prior to completing nine credits. This plan of study (and all revisions) must be approved by the student's adviser and the assistant dean for graduate affairs of the School of Engineering. The student's adviser must review/approve all course work in advance of enrollment. At least half the credits required in the student's program must be designated as 600 level or above.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the electrical and computer engineering track must have a B.S. degree in electrical and computer science engineering or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

#### Non-thesis option – engineering track

	credits
Concentration component – ENGR course work	15
Track electives – engineering or science course work	15
Total (minimum)	30

#### Curriculum

There are two components of each non-thesis M.S. track in Engineering track:

**Concentration (track-specific) component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serve as the student's primary engineering discipline.

**Track electives component.** This component allows the student to take courses in either engineering or science with approval of the student's adviser.

The track can be tailored to meet the individual student's academic goals and research interests. Students seeking to take course work and conduct their research in the engineering track should contact the appropriate graduate program coordinator or department chair of Engineering for detailed information about that track.

#### Degree requirements

Students seeking the non-thesis M.S. degree are required to take a minimum of 30 semester credits of approved graduate courses. Each student must complete 15 semester credits in concentration course work and 15 semester credits in track electives course work.

Each non-thesis student must have a plan of study by the end of the first semester or prior to completing nine credits. This plan of study (and all revisions) must be approved by the student's adviser and the assistant dean for graduate affairs of the School of Engineering. The student's adviser must review/approve all course work in advance of enrollment. At least half the credits required in the student's program must be designated as 600 level or above.

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the engineering track must have a B.S. degree in engineering, or a closely related discipline.

#### Registration

Students may begin a course of study in either the fall or spring semesters for the engineering programs, although a start in the fall semester is preferred.

## Department of Biomedical Engineering

The Department of Biomedical Engineering offers programs at the baccalaureate, master's and doctoral level.

Biomedical engineering provides in-depth study in a variety of specialization areas including biomedical imaging systems, orthopaedic biomechanics, tissue and cellular engineering, biomaterials, artificial organs, human-computer interfaces, cardiovascular devices and rehabilitation engineering. The programs allow students to participate in cutting-edge research in one of the nations most advanced engineering facilities. The department has ongoing collaborations with numerous industries, federal laboratories, the VCU science departments, the university's MCV Campus, the Hunter Holmes McGuire Veterans Affairs Medical Center, the Virginia BioTechnology Research Park and numerous biomedical and clinical programs throughout the VCU Medical Center's MCV Hospitals.

## Administration

**Gerald E. Miller**

Professor and Department Chair

[www.egr.vcu.edu/bme](http://www.egr.vcu.edu/bme)

## Biomedical engineering courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to biomedical engineering ([EGRB](#)) courses.

Follow these links to general engineering ([ENGR](#)) courses or the ([ENGZ](#)) laboratory.

## Biomedical Engineering, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Biomedical Engineering, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall Spring	Jun 1 (Feb 15 for financial assistance) Nov 15	GRE
Special requirements: Contact department for brochure			

This program is nominally a three-year program leading to the Ph.D. in Biomedical Engineering. Prior evidence of completion of physiology and/or statistics may result in a waiver of the requirements for these courses as determined by the graduate program coordinator and/or the department chair. A period of residence of at least three consecutive terms is required. Residency is defined as registration for at least nine credits per term. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the Doctor of Philosophy degree.

At the conclusion of the first year of doctoral study (or when the core course requirements have been satisfied), each doctoral student must successfully complete written and oral portions of a comprehensive examination. This examination is designed to test the student on fundamental knowledge in engineering as evidenced by the core (and related elective) courses within the curriculum. Upon completion of this examination, a doctoral student is permitted to initiate a doctoral research project and to complete additional course work consisting of biomedical engineering, clinical and science electives.

Upon completion of all course work and the intended research, a doctoral student must prepare a dissertation describing the completed research. A dissertation defense, under the direction of the advisory committee, will be scheduled to examine the student's research, dissertation documentation, and underlying fundamental knowledge needed to complete the research. Upon successful completion of the defense and dissertation, the doctoral student may apply for

graduation from Virginia Commonwealth University with the Doctor of Philosophy in Biomedical Engineering.

### Student learning outcomes

1: Fundamentals in math and science.

- Graduates can analyze and solve problems in the foundation areas of mathematics, the sciences and statistics.

2: Fundamentals in engineering.

- Graduates can analyze and solve problems in the foundation engineering areas of instrumentation, signal processing, mechanics and materials.

3: Fundamentals in life science.

- Graduates can analyze and solve problems in the life sciences, including physiology, and understand the relationship between the life sciences, mathematics and engineering.

4: Experimental skills.

- Graduates can formulate lab experiments, collect and analyze data from physical and simulated systems to solve technical problems, and conduct physiology and life science laboratory experiments to integrate engineering and physiology.

5: Design and analysis.

- Graduates can design and implement an optimized solution to meet a set of specifications and constraints; graduates can design systems used in biomedical applications which involve the interconnection between engineering and the life sciences; graduates can analyze biomedical problems and develop solutions that are originally open-ended.

6: Innovation and creativity.

- Graduates can examine technological challenges in biomedical and health-related topics in new ways and develop innovative solutions.

7: Communication skills.

- Graduates can organize and write well-organized and accurate theses/dissertations/technical reports, including appropriate citations; graduates can deliver oral presentations to peers and supervisors using the latest presentation technologies.

8: Lifelong learning and multidisciplinary teams.

- Graduates can understand the need for and have an appreciation of multidisciplinary teams in biomedical engineering and related fields; graduates have a recognition of the need for, and an ability to engage in, lifelong learning; graduates have an understanding of the knowledge tools necessary to achieve lifelong learning and career development.

### Admission requirements

In addition to the university admission requirements, biomedical engineering has the following admission criteria for all entering graduate students (for both M.S. and Ph.D. applicants):

- Minimum GPA of at least 3.0 for all graduate credit hours
- Minimum GRE score of 300 (combined verbal reasoning and quantitative reasoning) including a minimum 148 on the quantitative reasoning
- Minimum TOEFL score of 91 Internet-based for students whose first or native language is not English

Biomedical engineering will accept a maximum of six credit hours for transfer into Ph.D. program if the original grades for such courses are B or higher (or equivalent).

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the assistant dean for graduate affairs.

### Registration

In the biomedical engineering program, all new students begin their course of study in the fall semester (August). Spring semester admissions require the recommendation of the graduate program director, approval of the chair and the assistant dean for graduate affairs. Students may begin a course of study in either the fall or spring semesters for the engineering and computer science graduate

programs, although a start in the fall semester is preferred. For the CGEP, students may begin a course of study in either the fall or spring semester.

### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) focuses on the subject matter deemed critical as a foundation in the program. The examination(s) is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the student to integrate information and display an appropriate mastery of problem-solving capabilities. Graduate students may not take the comprehensive exam if their overall GPA or is less than 3.0, or if their GPA for courses within the program is below 3.0. Students must also have a GPA of at least 3.0 for courses within the program in order to take the comprehensive exam. For further details, see the graduate program director or the program chair.

### Honors

The Alexander Mallory Clarke Award for academic excellence is given each spring to the biomedical engineering student who is recognized by the faculty for outstanding achievement in the first year of study.

### Admission to candidacy

Before admission to candidacy for the doctorate, students must have: (1) completed required course work, (2) successfully completed the comprehensive examinations and (3) fulfilled all additional departmental requirements. Students must complete all the requirements for the master's degree, including successfully defending a master's thesis, before being admitted into candidacy for the doctoral degree. This last requirement will be waived for those students who: (1) already have a master of science in biomedical engineering or related discipline or (2) have successfully completed two years of medical school in the M.D./Ph.D. program as described in the School of Medicine chapter of this bulletin.

### Dissertation research

The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

When the dissertation has been completed, copies in accepted form and style are submitted to the members of the advisory committee. The committee members decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation and all examiners are required to vote.

If the advisory committee accepts the dissertation for defense, the candidate appears before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's advisory committee and no more than one negative vote shall be required for passing the final oral examination. All committee members must vote. There shall be an announcement of the candidate's name, department and title of dissertation, together with the day, place and hour of the final oral examination at least 10 working days in advance.

### Curriculum

A minimum of 39 credit hours, exclusive of research credits, is generally required.

	credits
Required biomedical engineering courses	12
EGRB 507 Biomedical Electronics and Instrumentation	
EGRB 603 Biomedical Signal Processing	
EGRB 511 Fundamentals of Biomechanics	
EGRB 613 Biomaterials	
Required courses in other departments	8
Physiology and statistics	

Elective courses (biomedical engineering or other area)	15
Research Seminar (Biomedical Engineering)	4
Directed Research (Biomedical Engineering)*	33
<hr/>	
	minimum of 72

\* EGRB 697 Directed Research in Biomedical Engineering is required at a level to be determined by each student's graduate advisory committee, with 33 credits being the minimum requirement.

### Combined Doctor of Medicine (M.D.) and Doctor of Philosophy (Ph.D.)

The M.D./Ph.D. Program seeks to train physician-scientists for careers that bridge basic and clinical science. Physician-scientists will translate laboratory discoveries into better patient outcomes. The program begins two months prior to the first year of medical school. These students arrive on campus for orientation and complete two laboratory rotations before the start of medical school classes. They complete the first two years of medical school and, after taking the first part of the U.S. National Medical Licensing Examination, enter a Ph.D.-granting department or program as a graduate student. Graduate-level course work, examinations and research will be guided by the thesis adviser and the thesis committee, with oversight by members of the M.D./Ph.D. Steering Committee. The main undertaking at this phase is laboratory research that leads to the Ph.D. dissertation. After completion of doctoral degree requirements, students move to the clinical year of medical school. Students may begin their clinical year of medical school immediately after completion of doctoral (Ph.D.) requirements, regardless of the time in the calendar year, and, 14 to 16 months later, may complete their medical school requirements. These students are exempt from the major part of the fourth year of medical school.

Prospective students submit applications through the American Medical College Application Service. Upon review of the AMCAS documents, qualified applicants are sent supplemental admission materials, including an application for the M.D./Ph.D. Program. Those invited to Richmond for interviews will spend one day in the standard interview for the School of Medicine and will spend a second day interviewing with members of the M.D./Ph.D. Steering Committee, as well as touring labs of faculty scientists.

Admission of medical students to the Ph.D. phase of training takes place formally following completion of the M-II year of M.D. training. A copy of the student file is transferred to the Office of Graduate Education and the individual is formally accepted to Ph.D. training by the VCU Graduate School.

The requirements for a combined professional school/graduate school degree in the School of Medicine are equivalent to those required of students seeking a graduate degree alone and are determined by the individual program.

For additional information, please see the program Web site at [www.vcu.edu/mdphd](http://www.vcu.edu/mdphd)

### Biomedical Engineering, Master of Science (M.S.)

#### Admission requirements summary

Biomedical Engineering, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jun 1 (Feb 15 for financial assistance) Nov 15	GRE
Special requirements: Contact department for brochure			

#### Program of study – B.S. to M.S.

Required biomedical engineering courses (minimum of three of the following)	9
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EGRB 507 Biomedical Electronics and Instrumentation  
EGRB 511 Fundamentals of Biomechanics  
EGRB 603 Biomedical Signal Processing  
EGRB 613 Biomaterials

Required physiology course	5
Elective courses (biomedical engineering or science course work)	9*
Research seminar (biomedical engineering)	1
Directed research	6**
EGRB 697 Directed Research in Biomedical Engineering	

**Total (minimum)** **30\*\***

\* The nine credits listed are minimum elective credits required for graduation; however, a student's advisory committee may require additional electives reflective of the field of study.

\*\* Directed research is required at a level to be determined by each student's advisory committee.

This program is nominally a two-year program leading to the M.S. in Biomedical Engineering. Prior evidence of completion of physiology may result in a waiver of the requirements for this course as determined by the graduate program coordinator and/or the department chair. Each Master of Science student must successfully complete a thesis describing his or her individualized research project. At the completion of the research, the student must present the research to the advisory committee and undergo an examination of the research results, thesis documentation and underlying educational foundation necessary to have successfully completed the research. Upon successful completion of the examination and thesis, the student may apply for graduation from Virginia Commonwealth University with the Master of Science in Biomedical Engineering.

#### Student learning outcomes

- Fundamentals in math and science.
  - Graduates can analyze and solve problems in the foundation areas of mathematics, the sciences and statistics.
- Fundamentals in engineering.
  - Graduates can analyze and solve problems in the foundation engineering areas of instrumentation, signal processing, mechanics and materials.
- Fundamentals in life science.
  - Graduates can analyze and solve problems in the life sciences, including physiology, and understand the relationship between the life sciences, mathematics and engineering.
- Experimental skills.
  - Graduates can formulate lab experiments, collect and analyze data from physical and simulated systems to solve technical problems, and conduct physiology and life science laboratory experiments to integrate engineering and physiology.
- Design and analysis.
  - Graduates can design and implement an optimized solution to meet a set of specifications and constraints; graduates can design systems used in biomedical applications which involve the interconnection between engineering and the life sciences; graduates can analyze biomedical problems and develop solutions that are originally open-ended.
- Innovation and creativity.
  - Graduates can examine technological challenges in biomedical and health-related topics in new ways and develop innovative solutions.
- Communication skills.

- Graduates can organize and write well-organized and accurate theses/dissertations/technical reports, including appropriate citations; graduates can deliver oral presentations to peers and supervisors using the latest presentation technologies.

#### 8. Lifelong learning and multidisciplinary teams.

- Graduates can understand the need for and have an appreciation of multidisciplinary teams in biomedical engineering and related fields; graduates have a recognition of the need for, and an ability to engage in, lifelong learning; graduates have an understanding of the knowledge tools necessary to achieve lifelong learning and career development.

## Admission requirements

In addition to the university admission requirements, biomedical engineering has the following admission criteria for all entering graduate students:

- Minimum GPA of at least 3.0 during the previous 60 credit hours (for applicants with a B.S.)
- Minimum GRE score of 300 (combined verbal reasoning and quantitative reasoning) including a minimum 148 on the quantitative reasoning
- Minimum TOEFL score of 91 Internet-based for students whose first or native language is not English

Biomedical engineering will accept a maximum of six credit hours for transfer into either the M.S. program if the original grades for such courses are B or higher (or equivalent).

Acceptance of an applicant is based upon the recommendation of the Admissions Committee with approval of the program chair and the assistant dean for graduate affairs.

## Registration

In the biomedical engineering program, all new students begin their course of study in the fall semester (August). Spring semester admissions require the recommendation of the graduate program director, approval of the chair and the assistant dean for graduate affairs.

## Honors

The Alexander Mallory Clarke Award for academic excellence is given each spring to the biomedical engineering student who is recognized by the faculty for outstanding achievement in the first year of study.

## Department of Chemical and Life Science Engineering

Chemical and life science engineering represents the formal interaction of chemical engineering with the life sciences. VCU's Department of Chemical and Life Science Engineering is uniquely poised to bring these two premier disciplines together to form a program distinct in the nation. Programs are offered at the undergraduate and graduate levels.

Life science engineering — with interest areas including stem cell and stem cell-derived tissue engineering, biosciences/biotechnology, cellular engineering, biochips and biosensors, bioinformatics and molecular biocomputing, genetic and protein molecular engineering, environmental life science engineering, and molecular- and cellular-based therapeutics — is the fastest growing of all industries that currently employ engineers.

Chemical engineering and life science engineering share a broad range of common foundational knowledge bases, including the principles of mass and energy balances, transport phenomena and thermodynamics, surface and interfacial science, and reaction science and engineering. Strong academic and research programs in chemical and life science engineering will provide a wealth of exciting professional opportunities for successful graduates of the VCU program.

The bachelor's program offers tracks in chemical engineering and life science engineering, and a chemical and life science engineering track is available in the Master of Science in Engineering program, as well as the Ph.D. in Engineering program. The CLSE tracks in the graduate-level programs are designed primarily for students who are interested in applying chemical and engineering principles toward important contemporary topics including process design, metabolic engineering, biosensor and biochip development, high-performance polymers in

medicine and energy conversion, polymer surface science, and environmentally benign polymer processing technologies. Major emphasis is placed on chemical and life science engineering fundamentals with additional emphasis on applied chemistry and life sciences.

## Administration

### B. Frank Gupton

Research Professor and Interim Chair

[www.egr.vcu.edu/clse](http://www.egr.vcu.edu/clse)

## Chemical and life science engineering courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to chemical and life science engineering (CLSE) courses.

Follow these links to general engineering (ENGR) courses or the (ENGZ) laboratory.

## Department of Computer Science

The Department of Computer Science offers undergraduate and graduate programs. The Bachelor of Science in Computer Science is a rigorous, highly concentrated curriculum of computer science courses. It includes advanced study in several important areas of computer science and provides a strong foundation in this discipline. Every course is taught by full-time faculty members who also serve as advisers to both undergraduate and graduate students.

The master's degree program emphasizes continuing self-development of individuals currently engaged in science-, technology- and engineering-related fields. It prepares persons who have completed undergraduate majors in these fields for entry into careers in areas that use computing technology. Both the theoretical and applied aspects of computer science are emphasized in this program. The program offers courses in a wide range of areas in computer science including machine learning, artificial intelligence, cybersecurity and cloud computing, data mining, bioinformatics, and medical informatics.

## Administration

### Krzysztof J. Cios

Professor and Chair

[www.egr.vcu.edu/cs](http://www.egr.vcu.edu/cs)

## Computer science courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to computer science (CMSC) courses.

## Computer and Information Systems Security, Master of Science (M.S.)

### Admission requirements summary

Computer and Information Systems Security, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jul 1 Nov 1	GMAT or GRE

The Master of Science in Computer and Information Systems Security, jointly offered by the Department of Computer Science in the School of Engineering and the Department of Information Systems in the School of Business, is designed primarily for students interested in professional roles in business, industry or government. Program graduates will serve as leaders within the computer and information systems security community and as strategic partners within the enterprises in which they work. They will stay attuned to, and anticipate changes in, the computer and information systems security environment and ensure that security solutions create a sound, competitive, cost-effective advantage for the enterprise.



Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices. The program takes a broad interdisciplinary approach to computer and information systems security that will help students develop the ability to see the larger organization, social, political, ethical and economic aspects of information security and offers a unique graduate-level curriculum that is both technically and managerially oriented.

For additional information, please visit our website at [www.business.vcu.edu/graduate](http://www.business.vcu.edu/graduate).

#### Student learning outcomes

Graduates of the program will be prepared to take leading roles in planning, organizing, managing, designing and configuring security solutions in public and private organizations and will be familiar with state-of-the-art security technologies and best practices.

#### Curriculum

The curriculum requires 30 credit hours and is divided into three components, as outlined below.

**Core:** 15 credit hours required of all students and designed to provide a common foundation to the discipline

- CISS 618 Database and Application Security
- CISS/INFO 622 Network and Operating Systems Security
- CISS 624 Applied Cryptography
- CISS 634 Ethical, Social and Legal Issues in Computer and Information Systems Security
- CISS/INFO 644 Principles of Computer and Information Systems Security

**Electives:** 12 credit hours selected from CISS course offerings or, with the approval of program co-directors, from course offered by the Departments of Computer Science, Information Systems, Criminal Justice or Forensic Science

**Practice component:** 3 credit hours, taken near the end of the student's course work, allows the student to apply principles to practice

### Computer Science, Master of Science (M.S.)

#### Admission requirements summary

Computer Science, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall Spring	Jun 1 (Feb 15 for financial assistance) Nov 15	GRE-General
Special requirements: Contact graduate director for specific requirements			

#### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the M.S. program in computer science must satisfy the requirements outlined below.

Acceptance of an applicant is based upon the recommendation of the Graduate Committee with approval of the program chair and the associate dean for graduate studies.

#### Student learning outcomes

1. Apply advanced knowledge of mathematics, science and engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science and/or engineering.
2. Problem analysis, design and implementation on computer systems: Graduates will demonstrate an ability to analyze problems, and to design and implement solutions on computer systems.
3. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.

#### Foundational areas for computer science graduate studies:

Foundational areas	Courses
Theory	CMSC 501 Advanced Algorithms
	CMSC 526 Theory of Programming Languages
	CMSC 620/CISS 624 Applied Cryptography
	CMSC 621 Theory of Computation
Systems	CMSC 502 Parallel Programming
	CMSC 519 Software Engineering: Specification and Design
	CMSC 608 Advanced Database
	CMSC 622 Network and Operating Systems Security
Applied computer science	CMSC/CISS 609 Advanced Artificial Intelligence
	CMSC 630 Applied Signal and Image Analysis
	CMSC 635 Knowledge Discovery and Data Mining
	CMSC 678 Statistical Learning and Fuzzy Logic Algorithms

#### M.S. in Computer Science requirements:

A student may choose either a thesis or non-thesis degree program. The thesis option is suggested for students who have a strong research interest or those who wish to pursue a Ph.D. For students not in the accelerated B.S.-M.S. program, at most, six non-CMSC credits may be applied toward the degree. Students in the accelerated B.S.-M.S. program should refer to the rules described in the bulletin under the heading Accelerated B.S.-M.S. program.

#### Non-thesis option (30 credits)

A minimum of 30 credits, including:

- At least two courses from each of the three foundation areas; CMSC 501 must be one of these courses
- At least 15 credits at the 600 level or greater

Up to 30 percent of a student's non-research graduate-level credits can be transferred into the M.S. program from another college or university.

The number of credits that may be transferred by students pursuing an M.S. in Computer Science through the Commonwealth Graduate Engineering Program is limited by CGEP policy to 50 percent of the required credits.

All transfer credits must be approved by the Graduate Committee using the graduate course transfer form.

For students not in the accelerated B.S.-M.S. program, courses that are transferred are subject to the following rules:

- These credits must not have been applied to any other degree, however, they may have been taken as part of a post-baccalaureate graduate certificate program.
- No more than six credits in graduate-level courses taken at VCU before admission to the M.S. program may be counted toward the M.S. degree.

At most three credits of CMSC 697 or CMSC 692 can be applied toward the degree.

#### Thesis option

Students will have to satisfy the following:

- A minimum of 24 non-thesis credits, including
  - At least two courses from each of the three foundation areas; CMSC 501 must be one of these courses
  - At least 12 credits at the 600 level or greater
- Six credits of CMSC 697 Directed Research

Up to 30 percent of a student's non-research graduate-level credits can be transferred into the M.S. program from another college or university.

The number of credits that may be transferred by students pursuing an M.S. in Computer Science through the Commonwealth Graduate Engineering Program is limited by CGEP policy to 50 percent of the required credits.

All transfer credits must be approved by the Graduate Committee using the graduate course transfer form.

For students not in the accelerated B.S.-M.S. program, courses that are transferred are subject to the following rules:

- These credits must not have been applied to any other degree, however, they may have been taken as part of a post-baccalaureate certificate program.
- No more than six credits in graduate-level courses taken at VCU before admission to the M.S. program may be counted toward the M.S. degree.

Students seeking to take a research credit course [CMSC 692 Independent Study (maximum three credit hours) or CMSC 697 Directed Research (maximum 6 credit hours)] must find a faculty adviser willing to supervise the research.

The student will produce a written thesis in the format specified by the VCU Graduate School and will publicly defend the thesis before a committee consisting of the thesis adviser, at least one other faculty member from the computer science program and a faculty member from outside of the computer science program.

### Accelerated Bachelor of Science (B.S.) and Master of Science (M.S.) in Computer Science

Students accepted into this selective program accomplish both the B.S. and M.S. degrees within five years by taking additional computer science courses within the first four years of the program. Some of these courses will replace general electives in the B.S. program.

#### Program administration and minimum requirements

In order to be accepted students must:

- Apply to the Computer Science Graduate Committee during the first semester after they have completed the last of the following sequence of classes: CMSC 101, 255, 256, 302, 303 and 311. Transfer students who enter with all of these courses (or equivalents) must apply during their first semester at VCU.
- Have a minimum GPA of 3.4 based on CMSC 101, 255, 256, 302, 303 and 311; all grades in any repeated courses will be included in computing this GPA. Students transferring these courses into the program will have the grades from their previous institution included in computing this GPA only for purposes of determining eligibility for this program.
- Have a minimum overall GPA of 3.0.

Students accepted into the accelerated B.S. to M.S. program are not required to complete the GRE for admission to the M.S. portion of the program.

#### Minimum requirements for accepted students to fulfill the program

Students accepted into the program are required to follow the curriculum outlined below in order to complete both degrees in five years.

In order to complete the B.S.:

1. All specific general education and major requirements for the B.S. degree
2. Six CMSC 500-level credits beyond those required for the computer science major, which count as general electives toward the B.S. and as CMSC electives toward the M.S.
3. Additional credits to total 120 (including 45 upper-level credits)

Upon completion of all requirements for the undergraduate degree, the B.S. can be awarded and the student will formally apply to the master's program. Providing the student has maintained a minimum GPA of 3.2 in the major, acceptance to the M.S. program is guaranteed. All requirements for the B.S. must be met before students are eligible to take any 600-level course.

Also required during the first four years in order to be on track to complete the M.S. during the fifth year:

4. Six additional CMSC 500-level credits that do not count toward the B.S. degree

(126 total credits to be completed in first four years)

In order to complete the M.S.:

As listed above (nos. 2 and 4) and taken during first four years:

- Six CMSC 500-level credits beyond those required for the computer science major, which count as general electives toward the B.S. and as CMSC electives toward the M.S.
- Six additional CMSC 500-level credits that do not count toward the B.S. degree

Taken during fifth year:

5. 15 CMSC 600-level credits
6. Three CMSC graduate-level credits

(30 credits required for M.S.)

## Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering prepares students for highly competitive, national placement in electrical and computer engineering employment and graduate education by providing a thorough grounding in electrical science and design, together with a sound foundation in mathematics, basic sciences and life skills.

The department offers baccalaureate degrees in computer engineering and electrical engineering, in addition to minors in both areas, as well as the option to choose course work appropriate for a pre-medicine or pre-dentistry curriculum. An electrical and computer engineering track is available in the Master of Science in Engineering as well as the Ph.D. in Engineering. The track is designed to prepare students for practice, research and/or teaching of electrical and computer engineering at the advanced level by providing intensive preparation for professional practice in the microelectronics, nanoelectronics, computer engineering and controls and communications aspects of electrical and computer engineering. At the advanced level, this track prepares individuals to perform original, leading edge research in the broad areas of microelectronics, nanoelectronics, controls and communications and computer engineering.

The curricula of the department provide a strong foundation in the fundamentals of the profession, including engineering problem solving, breadth in the major facets of the profession and the opportunity to specialize in today's critical areas of computer engineering, communication systems and microelectronics. Graduates will be well prepared for constant technological change and growth through lifelong learning.

## Administration

**Ashok Iyer**

Professor and Department Chair

[www.egr.vcu.edu/ece.aspx](http://www.egr.vcu.edu/ece.aspx)

## Electrical and computer engineering courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcu/courses](http://www.pubapps.vcu.edu/vcu/courses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to electrical and computer engineering (EGRE) courses.

Follow these links to general engineering (ENGR) courses or the (ENGZ) laboratory.

## Department of Mechanical and Nuclear Engineering

Mechanical engineering is one of the oldest and broadest engineering disciplines. Mechanical engineers design and analyze machines of all types including automobiles, airplanes, rockets, submarines, power generation systems, biomedical instrumentation, robots, manufacturing systems, household appliances and many, many more. In addition to well-known areas such as nuclear energy, nuclear propulsion and nuclear medicine, nuclear engineers are involved in many other applications of nuclear science and technology in fields as diverse as agriculture, industry, homeland security, forensics, environmental protection and even art. The Department of Mechanical and Nuclear Engineering provides quality graduate and undergraduate education through the following degree-granting programs:

- B.S. in Mechanical Engineering (general mechanical engineering curriculum)
- B.S. in Mechanical Engineering (nuclear engineering concentration)
- M.S. in Mechanical and Nuclear Engineering (thesis and non-thesis options)

- Ph.D. in Engineering (mechanical engineering track)

Current areas of research within the department include but are not limited to energy conversion systems, smart materials, corrosion, medical devices, aerosol science, sensors, radiation detection and measurement, nuclear reactor design, robotics, fluid mechanics, nanotechnology and biomechanics.

## Administration

**Gary Tepper**

Professor and Interim Chair

[www.egr.vcu.edu/me](http://www.egr.vcu.edu/me)

## Mechanical engineering courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to mechanical engineering (EGRM) courses.

Follow these links to general engineering (ENGR) courses or the (ENGZ) laboratory.

### Mechanical and Nuclear Engineering, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Mechanical and Nuclear Engineering, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

The Ph.D. curriculum will provide graduate-level training in both mechanical and nuclear engineering. Graduates of the program will be prepared for research and teaching careers in areas such as energy production, nuclear waste transport, storage and disposal, and the development of new mechanical devices for use in nuclear medicine. A set of required new interdisciplinary core courses will train students on the interaction of radiation with engineering materials, radiation in heat and mass transfer, as well as the mathematical modeling and control of mechanical systems incorporating radioactive elements. Technical electives in both mechanical and nuclear engineering will allow students to pursue in-depth study relevant to their selected research topic. Dissertation topics pursued as directed research credits will be devoted to open-ended research projects at the intersection of mechanical and nuclear engineering.

The Ph.D. degree will require a minimum of 68 credit hours beyond the B.S. degree, or a minimum of 36 credits beyond the M.S. degree. Students can enter the Ph.D. program with either a B.S. or M.S. degree with the following minimum credit requirements:

#### Student learning outcomes

1. Apply advanced knowledge of mathematics, science or engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science or engineering.
2. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.
3. Identify, formulate and solve engineering problems: Graduates will demonstrate an ability to identify, formulate and solve engineering problems.

## Requirements for students entering with a B.S. degree (68 credits minimum)

**Core component (15 credit hours):** This component consists of five required graduate courses that provide the foundation of the Ph.D. in Mechanical and Nuclear Engineering.

Core area	Core courses (3 credits each)
Continuum mechanics <sup>1</sup>	EGMN 503 Mechanical and Nuclear Engineering Continuum Mechanics
Mathematical analysis <sup>1</sup>	EGMN 504 Mechanical and Nuclear Engineering Analysis
Dynamic systems and controls	EGMN 603 Mechanical and Nuclear Engineering Dynamic Systems
Materials	EGMN 604 Mechanical and Nuclear Engineering Materials
Topics in nuclear <sup>2</sup>	EGRN 610 Topics in Nuclear Engineering

<sup>1</sup> Students entering the Ph.D. program with a B.S. in Mechanical Engineering from VCU who have taken EGMN 503 or EGMN 504 as undergraduate technical electives must take replacement courses approved by the MNE graduate program director.

<sup>2</sup> Not required for students entering with a B.S. in Nuclear Engineering. A replacement course approved by the MNE graduate program director must be taken and will count toward the required 15 credits of core courses.

**Technical elective component (18 credit hours minimum):** Mechanical and nuclear engineering students, with the aid of their dissertation adviser and dissertation committee, will select technical elective courses with the following requirements:

- Choose at least 6 credits from courses under the mechanical engineering list.
- Choose at least 3 credits from courses under the nuclear engineering list.
- The remaining 9 credits can be selected from either list or other appropriate graduate-level courses approved by the dissertation adviser.

**Directed research component (27 credit hours minimum):** This component consists of dissertation research directed toward completion of Ph.D. degree requirements under the direction of a dissertation adviser and dissertation committee. Students can register for between 1 and 15 credits of EGMN 697 Directed Research in Mechanical and Nuclear Engineering.

**Seminar component (8 credit hours minimum):** Students must complete a total of 8 credits of EGMN 690 Mechanical and Nuclear Engineering Seminar

**Note:** (a) A total of 21 credit hours from the core courses, or technical electives or seminar but not including directed research credits must be at the 600 level or higher.

(b) In certain cases, independent study courses (ENGR 691) are offered by individual faculty members. Up to 3 credits of ENGR 691 may be taken as a technical elective course.

(c) Students currently enrolled in the Engineering Ph.D. mechanical track, who wish to switch to the Ph.D. in Mechanical and Nuclear Engineering, must submit a request in writing to the graduate program director. Requests will be reviewed and approved by the Graduate Committee and will depend on the student's ability to satisfy the new Ph.D. degree requirements.

#### Sample curriculum

B.S. to Ph.D.		Credits
<b>First year, fall semester</b>		
EGMN 503 Mechanical and Nuclear Engineering Continuum Mechanics		3
EGMN 504 Mechanical and Nuclear Engineering Analysis		3
EGRN 610 Topics in Nuclear Engineering		3
Subtotal		9
<b>First year, spring semester</b>		
EGMN 603 Mechanical and Nuclear Engineering Dynamic Systems		3
EGMN 604 Mechanical and Nuclear Engineering Materials		3
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		2
Subtotal		9
<b>First-year total credits</b>		<b>18</b>
<b>Second year, fall semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research		2

EGXX 500-level technical elective	3
EGXX 600-level technical elective	3
Subtotal	9
<b>Second year, spring semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	2
EGXX 600-level technical electives	6
Subtotal	9
<b>Second-year total credits</b>	<b>18</b>
<b>Third year, fall semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	5
EGXX 600-level technical elective	3
Subtotal	9
<b>Third year, spring semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	5
EGXX 600-level technical electives	3
Subtotal	9
<b>Third-year total credits</b>	<b>18</b>
<b>Fourth year, fall semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	8
Subtotal	9
<b>Fourth year, spring semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	8
Subtotal	9
<b>Fourth-year total credits</b>	<b>18</b>
<b>Fifth year, fall semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	8
Subtotal	9
<b>Fifth year, spring semester</b>	
EGMN 690 Mechanical and Nuclear Engineering Seminar	1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering	8
Subtotal	9
<b>Fifth-year total credits</b>	<b>18</b>
Total core credits	15
Total elective credits (including seminar)	27
Total directed research hours	48
<b>Total number of credits</b>	<b>90</b>

### Requirements for students entering with an M.S. degree in engineering (45 credits minimum)

**Core component (9 credit hours):** This component consists of three required graduate courses that provide the foundation of the hybrid Ph.D. in Mechanical and Nuclear Engineering.

Core area	Courses (3 credits each)
Dynamic systems and controls	EGMN 603 Mechanical and Nuclear Engineering Dynamic Systems
Materials	EGMN 604 Mechanical and Nuclear Engineering Materials
Topics in nuclear <sup>1</sup>	EGRN 610 Topics in Nuclear Engineering

<sup>1</sup> Not required for students entering with a B.S. or M.S. degree in nuclear engineering or mechanical and nuclear engineering. A replacement course approved by the MNE graduate program director must be taken and will count toward the required 15 credits of core courses.

**Directed research component (30 credit hours):** This component consists of dissertation research directed toward completion of Ph.D. degree requirements under the direction of a dissertation adviser and dissertation committee.

**Seminar component (6 credit hours):** Students must complete a total of 6 credits of EGMN 690 Mechanical and Nuclear Engineering Seminar.

**Note:** (a) A total of 9 credit hours of core courses and seminar, but not including directed research, credits must be at the 600 level or higher.

(b) Students entering with an M.S. will follow the same curriculum as the students entering with a B.S. with the above noted reduction in required credit hours.

#### Sample curriculum

<b>M.S. to Ph.D.</b>		<b>Credits</b>
<b>First year, fall semester</b>		
EGMN 603 Mechanical and Nuclear Engineering Dynamic Systems		3
EGMN 604 Mechanical and Nuclear Engineering Materials		3
EGRN 610 Topics in Nuclear Engineering		3
Subtotal		9
<b>First year, spring semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>First-year total credits</b>		<b>18</b>
<b>Second year, fall semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research		8
Subtotal		9
<b>Second year, spring semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>Second-year total credits</b>		<b>18</b>
<b>Third year, fall semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>Third year, spring semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>Third-year total credits</b>		<b>18</b>
<b>Fourth year, fall semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>Fourth year, spring semester</b>		
EGMN 690 Mechanical and Nuclear Engineering Seminar		1
EGMN 697 Directed Research in Mechanical and Nuclear Engineering		8
Subtotal		9
<b>Fourth-year total credits</b>		<b>18</b>
Total core credits		9
Total elective credits (including seminar)		7
Total directed research hours		56
<b>Total number of credits</b>		<b>72</b>

**Mechanical and Nuclear Engineering, Master of Science (M.S.)**

**Admission requirements summary**

<b>Mechanical and Nuclear Engineering, Master of Science (M.S.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jun 1 (Feb 1 for financial assistance)	GRE
	Spring	Nov 15	

The School of Engineering offers the Master of Science in Mechanical and Nuclear Engineering degree with either a thesis or non-thesis option. The program utilizes the faculty and research facilities of the Department of Mechanical and Nuclear Engineering to expose students to advanced and emerging technologies in mechanical and nuclear engineering. Research thrusts in the department include but are not limited to smart materials, micro/nanotechnology, energy conversion systems, sensors, aerosol science, nuclear engineering, fluid mechanics, medical devices, robotics and biomechanics.

The M.S. degree program offers a thesis or non-thesis option and can be tailored to meet the individual student's academic goals and research interests. Eighteen to 24 months of study usually are necessary to complete the requirements for the thesis-option M.S. in Mechanical and Nuclear Engineering. The non-thesis option generally requires 12 months of full-time study or up to four years of part-time study. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the master's degree. Generally, a maximum of six credits of approved graduate course work required for a master's degree may be transferred from another program at VCU or outside institution and applied toward the degree.

**Student learning outcomes**

1. Apply advanced knowledge of mathematics, science or engineering: Graduates will demonstrate an ability to apply advanced knowledge of mathematics, science or engineering.
2. Communicate effectively: Graduates will demonstrate an ability to communicate effectively.
3. Identify, formulate and solve engineering problems: Graduates will demonstrate an ability to identify, formulate and solve engineering problems.

**Curriculum**

The mechanical and nuclear engineering M.S. degree program contains three curricular components:

**Core component.** This component allows the student to pursue a series of courses that focus on a specific field of engineering and serves as the student's primary engineering discipline. See below for specific course requirements.

**Technical elective component.** This component allows the student to take courses in either engineering, science or other areas with approval of the student's adviser.

**Directed research component.** This component emphasizes research directed toward completion of M.S. degree requirements under the direction of an adviser and advisory committee.

Depending on the type of degree pursued, students will have to take courses from two or all three of the curricular components. Students can choose to pursue either a thesis or non-thesis degree. Students should select their concentration component courses based upon their concentration area. Selecting one concentration area over another does not preclude a student from choosing courses from other areas. In fact students will be encouraged to take courses from both EGRM and EGRN areas. Sample curricula follow.

**Typical program of study – thesis option**

	Credits
Core component	9
Technical electives – engineering, science or related course work	15
Directed research – EGRM 697	6
Total (minimum)	30

**Typical program of study – non-thesis option**

	Credits
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Core component	9
Technical electives – engineering, science or related course work	21
Total (minimum)	30

**Core requirements**

Core areas	Courses (3 credits each)
Continuum mechanics*	EGMN 503 Mechanical and Nuclear Engineering Continuum Mechanics
Mathematical analysis*	EGMN 504 Mechanical and Nuclear Engineering Analysis
Topics in nuclear**	EGRN 610 Topics in Nuclear Engineering

**\* Students entering the M.S. program with a B.S. in Mechanical Engineering from VCU who have taken EGMN 503 or EGMN 504 as undergraduate technical electives must take replacement courses approved by the MNE graduate program director.**

**\*\* Not required for students entering with a B.S. in Nuclear Engineering. A replacement course approved by the MNE graduate program director must be taken and will count toward the required 9 credits of core courses.**

All full-time thesis master's students must register for and attend EGRM 690 Mechanical Engineering Seminar each semester. Part-time and non-thesis students are not required to register for the seminar, but they are encouraged to attend. All thesis students are required to give a research presentation as part of the seminar series at least once prior to graduation; non-thesis students must give a project presentation prior to graduation, based on an extension of work completed in a project-based course (see degree requirements below), as part of the seminar series. Note that EGMN 690 cannot be used to replace courses or research hours.

**Degree requirements**

The following are the minimum credit requirements for the proposed graduate degree programs.

**M.S. (thesis option)** – minimum 30 credit hours including 12 credit hours in concentration course work (EGRM or EGRN), 12 credit hours in technical electives (engineering, science or related areas) and six credit hours in directed research EGRM 697.

**M.S. (non-thesis option)** – minimum 30 credit hours including 15 credit hours in concentration course work (EGRM or EGRN) and 15 credit hours in technical electives (engineering, science or approved courses).

**Admission requirements**

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Engineering, applicants to the mechanical and nuclear engineering degree must have a B.S. degree in mechanical engineering, nuclear engineering or a closely related discipline.

**Registration**

Students may begin a course of study in either the fall or spring semesters for the mechanical and nuclear engineering program, although a start in the fall semester is preferred.

**List of courses in mechanical and nuclear engineering****Core courses, seminar and directed research**

EGMN 503 Mechanical and Nuclear Engineering Continuum Mechanics  
EGMN 504 Mechanical and Nuclear Engineering Analysis  
EGRN 610 Topics in Nuclear Engineering  
EGMN 690 Mechanical and Nuclear Engineering Seminar  
EGMN 697 Directed Research in Mechanical and Nuclear Engineering

**Technical elective courses**

EGMN 603 Mechanical and Nuclear Engineering Dynamic Systems  
EGMN 604 Mechanical and Nuclear Engineering Materials  
EGRM 510 Solid Mechanics and Materials Behavior  
EGRM 515 Vibrations  
EGRM 525 Feedback Control  
EGRM 545 Energy Conversion Systems  
EGRM 551 Experimental Methods for Engineers  
EGRM 555 Smart Materials



EGRM 561 Advanced Fluid Mechanics  
EGRM 570 Introduction to Computational Fluid Dynamics  
EGRM 580 Flow Control  
EGRM 568 Robot Manipulators  
EGRM 602 Convective and Radiation Heat Transfer  
EGRM 609 Advanced Characterization of Materials  
EGRM 630 Advanced Biofluid Mechanics  
EGRM 661 Computational Fluid Dynamics  
EGRM 662 Advanced Turbomachinery Systems  
EGRN 510 Probabilistic Risk Assessment  
EGRN 530 System Analysis of the Nuclear Fuel Cycle  
EGRN 620 Reactor Theory  
EGRN 630 Nuclear Power Plants  
EGRN 640 Nuclear Safety  
EGRN 650 Nuclear Radiation and Shielding  
ENGR 570 Effective Technical Writing  
ENGR 565 Design Optimization  
ENGR 591 Special Topics in Engineering  
ENGR 630 Technology, Security and Preparedness

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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Medicine**

The School of Medicine of the then Medical College of Virginia opened on November 5, 1838, as the medical department of Hampden-Sydney College. Full-time clinical faculty members were first appointed in 1928, and improved facilities became available between 1936 and 1941 with the completion of the 600-bed West Hospital, A. D. Williams Clinic and Hunton Hall dormitory, located on the current site of the Main Hospital building. Growth in faculty students and facilities continued after World War II, leading to the development of today's academic health center.

Hospital facilities on the MCV Campus include both in-patient and out-patient facilities. MCV Hospitals of the VCU Health System is licensed for 902 beds. In addition, the hospital at the McGuire Veterans Affairs Medical Center (600 beds) provides excellent patient care, training and research opportunities for the School of Medicine through its affiliation programs.

In the School of Medicine, advanced degree programs are coordinated through the Office of the Associate Dean for Graduate Education, who acts for the dean on all issues related to administration of advanced degree programs. Each advanced-degree program is represented by a faculty member who serves as director for graduate programs. Directors are appointed either by the chair of the department offering graduate degrees or, in the case of interdisciplinary programs, by the dean in consultation with the chairs of participating departments. The directors of graduate programs act on behalf of the programs and hold the responsibility and authority to represent the respective department(s) and their faculty to the school.

## Administration

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P.O. Box 980565  
Richmond, Virginia 23298-0565  
[www.medschool.vcu.edu](http://www.medschool.vcu.edu)

### Jerome F. Strauss III

Executive Vice-President for Medical Affairs (VCU Health System) and Dean

### Gordon L. Archer

Senior Associate Dean for Research and Research Training

### Julie Beales

Interim Associate Dean for Veterans Affairs

### Lelia Brinegar

Assistant Dean for Curriculum

### Samantha Buery-Joyner

Assistant Dean for Student Affairs – Inova Campus

### Teresa Carter

Associate Dean for Professional Instructions and Faculty Development

### Pemra Cetin

Assistant Dean for Student Affairs and Financial Aid

### Craig E. Cheifetz

Associate Dean for Medical Education – Inova Campus

### Jan F. Chlebowsky

Associate Dean for Graduate Education

### Ralph Ron Clark III

Associate Dean for Clinical Activities

### PonJola Coney

Senior Associate Dean for Faculty Affairs

### Louis DeFelice

Assistant Dean for Advanced Degree Administration

### Susan DiGiovanni

Assistant Dean for Pre-Clinical Medical Education

### Alan Dow

Assistant Dean for Clinical Medical Education

### George D. Ford

Assistant Dean for Sponsored Programs

### Alicia Freedy

Assistant Dean for Curriculum – Inova Campus

### Thomas Holland

Associate Dean for Alumni Relations and Development

### Kathleen Kreutzer

Assistant Dean for Faculty Development

### Paul E. Mazmanian

Associate Dean for Assessment and Evaluation Studies

### Mary Alice O'Donnell

Associate Dean for Graduate Medical Education

### Michael Ryan

Assistant Dean for Clinical Medical Education

### Joy Sanders

Assistant Dean for Development and Alumni Affairs

### Amy Sebring

Senior Associate Dean for Finance and Administration

### John Seeds

Senior Associate Dean for Professional Education Programs

### vacant

Assistant Dean for Administration

### vacant

Associate Dean for Patient Safety and Quality Care

### John Ward

Senior Associate Dean for Clinical Affairs

### Michelle Whitehurst-Cook

Associate Professor of Family Medicine and Associate Dean for Admissions

### Christopher Woleben

Associate Dean for Student Affairs

### Isaac K. Wood

Senior Associate Dean for Medical Education and Student Affairs

## Accreditation

Genetic counseling (master's degree)

American Board of Genetic Counseling

Medical physics

Commission on Accreditation of Medical Physics Educational Programs

Medicine (M.D.)

Liaison Committee on Medical Education

Public health (master's degree)

Council on Education in Public Health

## Mission statement

The mission of the VCU School of Medicine is to provide preeminent education to physicians and scientists in order to improve the quality of health care for humanity. Through innovative, scholarly activity and a diverse educational context, the school seeks to create and apply new knowledge, and to provide and continuously improve systems of medical and science education. Furthermore, the mission includes the development of more effective health care practices to address the needs of diverse populations and to provide distinguished leadership in the advancement of medicine and science.

The primary aim of the School of Medicine is to provide an academic environment appropriate for the education of its students, including undergraduate medical students, advanced-degree (graduate) students and graduate physician house officers, as well as continuing education directed toward the needs of practicing physicians. In the classroom, laboratory, clinic and hospital, the faculty and students are brought together in teaching-learning experiences that promote scientific scholarship and personal growth in knowledge and professional skills applicable to careers in a diverse workplace environment.

The School of Medicine and its faculty have vested responsibilities for the advancement of knowledge through research and for service to the community through application of skills in biomedical knowledge, health care leadership and patient care. Therefore, the school shares with teaching the interdependent and almost inseparable objectives of research and service.

The School of Medicine is located on the MCV Campus of Virginia Commonwealth University.

For comprehensive information on the School of Medicine departments, programs and faculty, please go to the school Web site at [www.medschool.vcu.edu](http://www.medschool.vcu.edu).

## Faculty and facilities

The School of Medicine consists of 700 full-time faculty, including affiliates, assisted by 630 residents and fellows and more than 700 clinical voluntary faculty. Programs of instruction and research are conducted on campus, at the McGuire Veterans Affairs Medical Center and at affiliated hospitals in an effort to expose the students to the variety of clinical disorders encountered in the eastern U.S. The School of Medicine has established a geographically separate campus at the Inova Fairfax Hospital. Each year, 24 third-year students take all their clinical clerkships at Inova Fairfax Hospital. Their fourth year elective program also is based at the Inova Fairfax Hospital.

## Health policies

Virginia Commonwealth University School of Medicine requires that all medical students carry active health insurance. Health insurance benefits must be equal to or greater than those provided by the university health carrier. In addition, it is required that all students complete required immunizations within six months of matriculation and have repeat tuberculosis screening performed prior to the third-year clerkships. For details related to these policies, please visit [www.medschool.vcu.edu/studentactivities](http://www.medschool.vcu.edu/studentactivities).

## Graduate programs

A complete listing of advanced degree programs including links to departments, programs, contact information and application requirements can be found at [www.medschool.vcu.edu/audience/prospective.html](http://www.medschool.vcu.edu/audience/prospective.html).

Graduate programs offering Master of Science and doctoral training in the School of Medicine include:

- Anatomy and Neurobiology
- Biochemistry
- Biostatistics
- Epidemiology (doctoral training only)
- Human genetics
- Medical physics
- Microbiology and immunology
- Pathology (doctoral training only)
- Pharmacology and toxicology
- Physiology

The Department of Human and Molecular Genetics offers a Master of Science in Genetic Counseling (M.S.) and the Department of Epidemiology and Community Health offers the Master of Public Health (M.P.H.) degree. Both of these degree programs are accredited by the appropriate national organizations.

The Department of Human and Molecular Genetics offers a combined degree program that pairs the M.S. in Genetic Counseling and the Ph.D. in Human Genetics. The school partners with the School of Allied Health Professions to offer combined Anatomy and Neurobiology/physical therapy track and Physiology/physical therapy track Ph.D. programs.

Recognizing that graduate education should prepare students for a variety of career options, and that developments in the basic sciences have expanded the breadth of scholarship, the school has developed approaches to interdisciplinary education, particularly in the areas of neuroscience, molecular biology and genetics, immunology, and structural biology.

A two-semester post-baccalaureate certificate program offering training for students seeking admission to professional school (i.e., School of Medicine, School of Dentistry) is available as the Pre-medical Graduate Health Sciences Certificate.

## Application and admission to graduate programs

Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

1. The purpose of admission requirements and procedures is to ensure selection of competent students whose motivation, ability, education and character qualify them for graduate study in preparation for a career in science.

2. The following credentials constitute an application and should be sent to Virginia Commonwealth University, Graduate School, Richmond, VA 23284-3051.
  - a. Application for admission on a form available to the applicant from either the VCU Graduate School or the VCU Office of International Education. A fee in the form of a check or money order (payable to VCU), must accompany the application. The fee cannot be returned nor credited toward tuition payment.
  - b. Official transcripts of all undergraduate and graduate work sent directly from college or university registrars to the Graduate School.
  - c. Letters of recommendation from three present or former teachers or others the applicant believes to be qualified to evaluate fitness to engage in graduate study for the degree in the field of choice.
  - d. A personal statement from the applicant summarizing motivation, education and aims in pursuing graduate study.
  - e. Verbal, quantitative, and analytical portions of the Graduate Record Examination are required. Medical College Admission Test or Dental Aptitude Test may be acceptable in lieu of the GRE for selected programs.
  - f. International applicants for whom English is a foreign language must meet departmental admission requirements for performance on the TOEFL (Test of English as a Foreign Language). See section on international students in the Graduate Studies at VCU section of this Web site.
3. Acceptance of an applicant is based upon the recommendation of the director of graduate programs of the relevant program.

While most students matriculate in the fall semester, arrangements may be made to initiate graduate work at other times during the academic year.

## Ph.D. programs

### General requirements for graduate degrees

1. All full-time graduate students are expected to register for a minimum of 15 credit hours for the fall and spring semesters and six credit hours for the summer session. This requirement includes research. As an example, when students are registered for 10 credits in formal courses, they are expected to undertake five credits of research under the direction of their adviser or any approved faculty member. Research courses shall be graded as S (satisfactory), U (unsatisfactory) or F (fail). Registration for one credit hour is permitted only with prior permission.
2. Students are required to remain in good academic standing through the course of their degree program. Unsatisfactory student performance includes:
  - a. The assignment of a grade of U, D or F in any course
  - b. Failure to maintain a cumulative GPA of 3.0 or greater
  - c. Failure to pass the written or oral comprehensive examination
  - d. Failure to pass the final examination

A student whose performance is unsatisfactory must obtain the approval of the MCV Campus Graduate Committee to gain permission for continuing in the graduate program. The committee elicits the recommendation of the department/program (as represented by the director of graduate studies of the appropriate program) and, as appropriate, the student's adviser in making a determination. Unsatisfactory performance also constitutes grounds for the termination of financial assistance to the student.

3. Students may not take the comprehensive examination for the Ph.D. degree if their overall GPA is less than 3.0 or if the GPA for courses within the major department is below 3.0. Students may not take the final oral examination for the M.S. or Ph.D. degree if their overall GPA is below 3.0. The examining body for the administration of the comprehensive examinations and the final examination is the student advisory committee. For the oral comprehensive examination for Ph.D. students and the final examinations for M.S. students, the body is supplemented by the addition of a representative of the MCV Campus Graduate Committee who chairs the examining body. The representative must be a member of the graduate faculty and is appointed by the chair of the MCV Campus Graduate Committee. The representative holds

the responsibility for compliance with protocols appropriate to the examination, including the equitable treatment of the candidate.

4. Copies of the thesis/dissertation consistent with university standards shall be provided to the members of the student's advisory committee three weeks or more before the date of the defense of the thesis/dissertation. Following acceptance of the thesis/dissertation defense schedule by the committee, the student must submit a copy of the thesis/dissertation and a request for scheduling of the final examination to the chair of the MCV Campus Graduate Committee a minimum of ten working days in advance of the examination date. After passing the final examination, it shall be the responsibility of the candidate to present to the dean's office the approved original thesis/dissertation plus the minimum required number of copies (three for M.S., four for Ph.D.) in final form suitable for binding. In consultation with the office staff, the candidate shall be responsible for the binding and the processing of the thesis through VCU Libraries and for the payment of all charges for these services.
5. A degree is granted only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding.
6. VCU currently requires registration for a defined credit hour level during both the didactic and research phases of advanced degree training. For programs requiring the preparation of a thesis or dissertation, there is therefore no obligatory linkage between the accumulation of credit hours and an expectation that a degree be awarded.

As a guide to monitoring the timely completion of the degree within the present enrollment framework, the accumulation of 80 credit hours for a M.S. degree and 180 credit hours for a Ph.D. degree can be taken as a reasonable measure. These credit hour totals refer to degree programs requiring the preparation of a thesis or dissertation. Unless explicitly stated, the figures cited above apply to Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) programs offered by the School of Medicine.

### The student adviser and advisory committee

Students receive guidance and counsel from the director of graduate programs for the appropriate program prior to appointment of the permanent adviser. The permanent adviser holds the primary responsibility for monitoring the development of the student in the program and providing the appropriate guidance and counsel essential to the scholarly development of the student.

An advisory committee, appointed shortly after the permanent adviser is appointed, serves as both an examining and consultative body, functioning to assist the development of the student. Committee members hold a special responsibility as a source of counsel for each student.

1. Each student shall have an adviser and an advisory committee.
2. Appointment of the adviser:
  - a. The initial adviser will be the director of the graduate program or his/her designee prior to appointment of the permanent adviser.
  - b. A permanent adviser shall be appointed from the graduate faculty by the chair of the MCV Campus Graduate Committee upon recommendation of the chair of the student's major department. Appointment should be made no later than the beginning of the fall semester following matriculation. A change in the permanent adviser may be made by the chair of the MCV Campus Graduate Committee upon recommendation of the chair of the major department.
3. Duties of the adviser:
  - a. The adviser shall, with the student's advisory committee, have responsibility for guiding the student's academic program.
  - b. The adviser shall develop a plan for the student's didactic program with the student.
  - c. The adviser shall, on the basis of the proposed didactic and scholarly program for the student, identify members of the faculty to comprise the student's advisory committee and elicit their agreement to serve, the adviser serving as the chair of the committee.
  - d. The adviser shall supervise the student's research work and dissertation preparation and be one of the examiners of the dissertation (Ph.D.).

- e. At the close of the spring semester, the adviser shall submit to the program director or the chair of the MCV Campus Graduate Committee a report covering the progress of the student. Copies of the report should be provided to the student and the membership of the student advisory committee by the adviser.

#### 4. The student's advisory committee:

- a. The student's advisory committee shall be appointed no later than the end of the fall semester of the second year after matriculation by the chair of the MCV Campus Graduate Committee, upon recommendation of the student's adviser, review by the graduate program director and recommendation of the chair of the department of the permanent adviser. Appointment of the student advisory committee must be done within three months of the appointment of the permanent adviser and prior to the administration of comprehensive (or final) examinations. The composition of the advisory committee shall be such that significant areas of the student's scholarly program are represented in the expertise of the faculty members.
  - i. The committee for the Ph.D. candidate shall consist of a minimum of five members as follows: the student's adviser; two other members of the graduate faculty of the department/program in which the student is enrolled; and at least two other members of the graduate faculty from departments other than the one in which the student is enrolled (where feasible, from two different departments).
  - ii. A faculty member who is not a member of the graduate faculty may be appointed to a student advisory committee if approved by the MCV Campus Graduate Committee. Appointment is made by the dean of the Graduate School.
- b. Duties of the student's advisory committee:
  - i. The advisory committee functions as an advisory body to ensure that timely progress toward degree completion is being achieved, as an examining body participating as appropriate for the intended degree in written qualifying examinations and conducting the oral qualifying examination and final examination, and as a consultative body to provide scholarly counsel.
  - ii. The student's advisory committee shall work with the student's adviser in guiding the student's graduate program and shall meet at least annually. It is strongly recommended that the advisory committee meet with the student prior to administration of the comprehensive examination(s) by the committee.
  - iii. The student's advisory committee shall recommend and approve a degree program (including foreign language if applicable) for the student as soon as it is practical. The proposed program should be filed with the chair of the MCV Campus Graduate Committee no later than the third semester of study.
  - iv. The student's advisory committee shall conduct the oral comprehensive and final examination.

### Doctor of Philosophy

1. Advanced graduate study leading to the Doctor of Philosophy degree is offered in the departments of Anatomy and Neurobiology, Biochemistry and Molecular Biology, Biostatistics, Epidemiology and Community Health, Human and Molecular Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology and Biophysics. The departments of Radiology and Radiation Oncology administer the Ph.D. degree in medical physics.
2. A minimum of 30 credit hours exclusive of research credits is generally required. In practice, a minimum of four years of study, including research, is necessary to complete all requirements.
3. For all Ph.D. programs, a period of residence of at least two consecutive semesters is required. In the context of Ph.D. training, "residence" refers to full-time enrollment, equivalent to enrollment of nine or more credit hours in a given academic term. The School of Medicine recommends that doctoral students maintain "residency" status for one academic year (fall and spring semesters), usually during the initial year of study. This recommendation is to ensure that the didactic component of training is not prolonged. Students should register in each academic term as a means of ensuring that timely



progress toward degree completion is achieved. The specific requirements for residency will be detailed by the individual programs. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited toward the doctor of philosophy degree.

### Admission to candidacy

The development of the individual as an independent research scientist is a critical component of the Ph.D. degree. The potential for such development is assessed on the basis of both mastery of subject matter and research competency as judged in the context of written and oral examinations administered at the level of department or program. Students are admitted to candidacy by the dean on the basis of completing examinations as required and the recommendation of the faculty adviser, student advisory committee and graduate program director.

### Comprehensive examinations

In order to advance to doctoral candidacy, the student must pass both written and oral comprehensive examinations. The written examination(s) generally focus(es) on the subject matter deemed critical as a foundation in the particular program. The written examination is largely based on material covered in required course work and its application to theoretical and practical problems. The oral examination, which follows successful completion of the written examination(s), is administered to assess the ability of the candidate to integrate information and display an appropriate mastery of problem-solving capabilities.

1. To advance to candidacy, the student shall take written and oral examinations designed to determine the potential of the individual for development as an independent research scientist. Advancement to candidacy should preferably take place prior to initiating the third academic year in the program. The written examination is administered by the student's department/program. In the event of failure of the written comprehensive examination, the student, with the approval of the MCV Campus Graduate Committee, may be permitted to repeat the written examination.
2. After passing the written examination(s), the student is eligible for the oral examination. The oral examination is conducted by the student's advisory committee and is chaired by a graduate faculty member representing the MCV Campus Graduate Committee who serves as a voting member of the examining committee. The oral examination is to be administered no later than six months after passing the written examination. (Departments/programs may require a shorter interval.)
3. The oral examination is scheduled through the Office of Graduate Education. An announcement of the candidate's name, department/program and the time and place of the examination shall be posted at least 10 working days in advance of the examination. If a written document prepared by the candidate is a component of the examination, the document shall be provided to the members of the examining committee at least 10 working days in advance of the examination. The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but their questions shall not be presented until after the advisory committee has completed its questions. Faculty members other than those on the advisory committee shall not vote on the success or failure of the candidate. If a student fails the oral examination, the student may be reexamined with the approval of the MCV Campus Graduate Committee.
4. A favorable vote of the examining committee (all members of body being required to vote) with no more than one negative vote, is required to pass the examination. Members of the examining committee must vote on the performance as either pass or fail.
5. The oral examination must be completed successfully at least six months before submission of the dissertation.

### Dissertation research

1. The student must conduct a substantial original investigation under the supervision of the permanent adviser and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.
2. The body of experimental work to be incorporated into the dissertation is subject to the approval of the membership of the student advisory committee. The advisory committee should, therefore, be formally consulted as the research project nears completion to ensure that there is agreement with respect to the material deemed necessary and sufficient for incorporation into

the dissertation. Such consultation will normally occur in the form of a meeting of the advisory committee with the student. The faculty adviser has a responsibility to advise the student when the meeting of the advisory committee for this purpose should take place.

3. The dissertation is prepared in an acceptable form and style with the counsel of the faculty adviser. The faculty adviser determines when the dissertation document can serve as the basis for the final oral examination (or dissertation defense). With the approval of the faculty adviser, the final oral examination by the advisory committee is scheduled and the dissertation document is distributed to the advisory committee. Distribution of the dissertation document to the advisory committee will usually occur at least ten working days in advance of the final oral examination. The Office of Graduate Education is informed of the scheduling of the final oral examination ten working days in advance of the examination. The Office of Graduate Education will then post an announcement of the final oral examination to include the name and department of the candidate together with the title of the dissertation and the day, place and time of the final oral examination.
  4. The final oral examination is conducted by the student advisory committee at a specified time and place, is chaired by the faculty adviser and is open to all members of the faculty. The subject matter of the examination is limited to the content of the candidate's dissertation and related areas. A favorable vote of the advisory committee with no more than one negative vote shall be required to indicate that the candidate has passed the final oral examination. All advisory committee members must vote. The outcome of the final oral examination is reported to the Office of Graduate Education. If the examination is not passed, the Student Advisory Committee must recommend a course of action for the student. The committee might, for example, recommend that a re-examination be scheduled, or that a major revision of the dissertation (including added data collection and/or analysis) be required prior to rescheduling of the examination, or that the student be terminated from the program or other action as deemed appropriate by the committee. A majority of the committee membership must concur in the recommended course of action. The recommendation must be communicated in writing to the appropriate graduate program director for approval within five working days of the examination. The program, acting through the graduate program director, shall accept the recommendation of the committee or determine an alternative within an additional five working days. The course of action approved by the program will be communicated in writing to the student by the graduate program director. The graduate program director shall inform the Office of Graduate Education of the School of Medicine in writing as to the action taken.
- If a re-examination is the recommended course of action, a representative of the MCV Campus Graduate Committee will be appointed to serve as the chair of the examining committee.
5. The student advisory committee approves the dissertation document as acceptable following the final oral examination. Approval of the dissertation as acceptable is indicated by the signature of all members of the advisory committee on the signature page of the dissertation. Approval of the dissertation by the advisory committee must be unanimous.

### Termination of enrollment

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct or for persistent failure to fulfill the purposes for which he or she was matriculated.

A student enrolled in a graduate program under the supervision of the MCV Campus Graduate Committee may be dismissed from the school in which he is enrolled for failure to meet academic requirements prescribed by his school or failure to exhibit the attitudes and skills deemed necessary to function within his chosen scientific discipline.

Any action by a graduate student in a program under the supervision of the MCV Campus Graduate Committee considered to be unprofessional conduct shall constitute cause for disciplinary action.

Unprofessional conduct includes, but is not limited to:

1. Fraud or deceit in gaining admission to the university, i.e., false or obviously misleading representations on the admission application
2. An act that violates the established legal standards regarding conduct of one person toward society (i.e., stealing, lying, cheating and slander)

3. Conviction of a felony involving moral turpitude
4. Plagiarism or other scientific misconduct

### Master's programs

Advanced graduate study leading to the Master of Science degree is offered in the departments of Anatomy and Neurobiology, Biochemistry and Molecular Biology, Biostatistics, Human and Molecular Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology and Biophysics. The Department of Epidemiology and Community Health offers the Master of Public Health degree; the Department of Human and Molecular Genetics also offers the Master of Science degree in genetic counseling; and the departments of Radiology and Radiation Oncology administer the Master of Science degree in medical physics.

### General requirements for graduate degrees

1. All full-time graduate students are expected to register for a minimum of five credit hours for the fall and spring semesters and six credit hours for the summer session. This requirement includes research. As an example, when students are registered for 10 credits in formal courses, they are expected to undertake five credits of research under the direction of their adviser or any approved faculty member. Research courses shall be graded as S (satisfactory), U (unsatisfactory) or F (fail). Registration for one credit hour is permitted only with prior permission.
2. Students are required to remain in good academic standing through the course of their degree program. Unsatisfactory student performance includes:
  - a. The assignment of a grade of U, D or F in any course
  - b. Failure to maintain a cumulative GPA of 2.5 or greater
  - c. Failure to pass the written or oral comprehensive examination
  - d. Failure to pass the final examination

A student whose performance is unsatisfactory must obtain the approval of the MCV Campus Graduate Committee to gain permission for continuing in the graduate program. The committee elicits the recommendation of the department/program (as represented by the director of graduate studies of the appropriate program) and, as appropriate, the student's adviser in making a determination. Unsatisfactory performance also constitutes grounds for the termination of financial assistance to the student.

3. Students may not take the comprehensive examination for the Ph.D. degree if their overall GPA is less than 2.5 or if the GPA for courses within the major department is below 3.0. Students may not take the final oral examination for the M.S. or Ph.D. degree if their overall GPA is below 3.0. The examining body for the administration of the comprehensive examinations and the final examination is the student advisory committee. For the oral comprehensive examination for Ph.D. students and the final examinations for M.S. students, the body is supplemented by the addition of a representative of the MCV Campus Graduate Committee who chairs the examining body. The representative must be a member of the graduate faculty and is appointed by the chair of the MCV Campus Graduate Committee. The representative holds the responsibility for compliance with protocols appropriate to the examination, including the equitable treatment of the candidate.
4. Copies of the thesis/dissertation consistent with university standards shall be provided to the members of the student's advisory committee three weeks or more before the date of the defense of the thesis/dissertation. Following acceptance of the thesis/dissertation defense schedule by the committee, the student must submit a copy of the thesis/dissertation and a request for scheduling of the final examination to the chair of the MCV Campus Graduate Committee a minimum of ten working days in advance of the examination date. After passing the final examination, it shall be the responsibility of the candidate to present to the dean's office the approved original thesis/dissertation plus the minimum required number of copies (three for M.S., four for Ph.D.) in final form suitable for binding. In consultation with the office staff, the candidate shall be responsible for the binding and the processing of the thesis through VCU Libraries and for the payment of all charges for these services.
5. A degree is granted only after all requirements have been fulfilled, including payment of all fees to the university, and after submission of the copies of the thesis for binding.

6. VCU currently requires registration for a defined credit hour level during both the didactic and research phases of advanced degree training. For programs requiring the preparation of a thesis or dissertation, there is therefore no obligatory linkage between the accumulation of credit hours and an expectation that a degree be awarded.

As a guide to monitoring the timely completion of the degree within the present enrollment framework, the accumulation of 80 credit hours for a M.S. degree and 180 credit hours for a Ph.D. degree can be taken as a reasonable measure. These credit hour totals refer to degree programs requiring the preparation of a thesis or dissertation. Unless explicitly stated, the figures cited above apply to Master of Science and Doctor of Philosophy programs offered by the School of Medicine.

### The student adviser and advisory committee

Students receive guidance and counsel from the director of graduate programs for the appropriate program prior to appointment of the permanent adviser. The permanent adviser holds the primary responsibility for monitoring the development of the student in the program and providing the appropriate guidance and counsel essential to the scholarly development of the student.

An advisory committee, appointed shortly after the permanent adviser is appointed, serves as both an examining and consultative body, functioning to assist the development of the student. Committee members hold a special responsibility as a source of counsel for each student.

1. Each student shall have an adviser and an advisory committee.
2. Appointment of the adviser:
  - a. The initial adviser will be the director of the graduate program or his/her designee prior to appointment of the permanent adviser.
  - b. A permanent adviser shall be appointed from the graduate faculty by the chair of the MCV Campus Graduate Committee upon recommendation of the chair of the student's major department. Appointment should be made no later than the beginning of the fall semester following matriculation. A change in the permanent adviser may be made by the chair of the MCV Campus Graduate Committee upon recommendation of the chair of the major department.
3. Duties of the adviser:
  - a. The adviser shall, with the student's advisory committee, have responsibility for guiding the student's academic program.
  - b. The adviser shall develop a plan for the student's didactic program with the student.
  - c. The adviser shall, on the basis of the proposed didactic and scholarly program for the student, identify members of the faculty to comprise the student's advisory committee and elicit their agreement to serve, the adviser serving as the chair of the committee.
  - d. The adviser shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis (M.S.).
  - e. At the close of the spring semester, the adviser shall submit to the program director or the chair of the MCV Campus Graduate Committee a report covering the progress of the student. Copies of the report should be provided to the student and the membership of the student advisory committee by the adviser.
4. The student's advisory committee:
  - a. The student's advisory committee shall be appointed no later than the end of the fall semester of the second year after matriculation by the chair of the MCV Campus Graduate Committee, upon recommendation of the student's adviser, review by the graduate program director and recommendation of the chair of the department of the permanent adviser. Appointment of the student advisory committee must be done within three months of the appointment of the permanent adviser and prior to the administration of comprehensive (or final) examinations. The composition of the advisory committee shall be such that significant areas of the student's scholarly program are represented in the expertise of the faculty members.
    - i. The committee for the M.S. candidate shall consist of a minimum of three members as follows: the student's adviser (who serves as chair of the committee); one other member of the graduate faculty

of the department/program in which the student is enrolled; and one other member of the graduate faculty from a department other than the one in which the student is enrolled.

- ii. A faculty member who is not a member of the graduate faculty may be appointed to a student advisory committee if approved by the MCV Campus Graduate Committee. Appointment is made by the dean, School of Graduate Studies.
- b. Duties of the student's advisory committee:
  - i. The advisory committee functions as an advisory body to ensure that timely progress toward degree completion is being achieved, as an examining body participating as appropriate for the intended degree in written qualifying examinations and conducting the oral qualifying examination and final examination, and as a consultative body to provide scholarly counsel.
  - ii. The student's advisory committee shall work with the student's adviser in guiding the student's graduate program and shall meet at least annually. It is strongly recommended that the advisory committee meet with the student prior to administration of the comprehensive examination(s) by the committee.
  - iii. The student's advisory committee shall recommend and approve a degree program (including foreign language if applicable) for the student as soon as it is practical. The proposed program should be filed with the chair of the MCV Campus Graduate Committee no later than the third semester of study.
  - iv. The student's advisory committee shall conduct the oral comprehensive and final examination.

## Master of Science

1. Advanced graduate study leading to the Master of Science degree is offered in the departments of Anatomy and Neurobiology, Biochemistry and Molecular Biology, Biostatistics, Human and Molecular Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology and Biophysics. The Department of Epidemiology and Community Health offers the Master of Public Health degree; the Department of Human and Molecular Genetics also offers the Master of Science degree in genetic counseling; and the departments of Radiology and Radiation Oncology administer the Master of Science degree in medical physics.
2. A minimum of 24 semester course hours is required, exclusive of research credits. In practice, it is found that two years of study are usually necessary to complete the requirements. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the Master of Science degree. Generally a maximum of one-third of the hours required for a master's degree may be transferred from another VCU program or outside institution and applied toward the degree upon recommendation of the student's director of graduate programs with the concurrence by the chair of the MCV Campus Graduate Committee.
3. Each student must conduct an original investigation under the supervision of the permanent adviser, prepare a thesis reporting the results of this research and analyze its significance in relation to existing scientific knowledge. This study is reported in a thesis prepared in acceptable form and style.
4. The body of experimental work to be incorporated into the thesis is subject to the approval of the student advisory committee members. The advisory committee should, therefore, be formally consulted as the research project nears completion to ensure that there is agreement with respect to the material deemed necessary and sufficient for incorporation into the thesis. Such consultation will normally occur in the form of a meeting of the advisory committee with the student. The faculty adviser has a responsibility to advise the student when the meeting of the advisory committee for this purpose should take place.
5. The thesis is prepared in an acceptable form and style with the counsel of the faculty adviser. The faculty adviser determines when the thesis document can serve as the basis for the final oral examination (or thesis defense). With the approval of the faculty adviser, the final oral examination by the advisory committee is scheduled and the thesis document is distributed to the advisory committee. Distribution of the thesis document to the advisory committee should take place at least ten working days in advance of the final oral examination. The Office of Graduate Education is to be informed of the

scheduling of the final oral examination ten working days in advance of the scheduled date. The Office of Graduate Education then identifies a representative of the MCV Campus Graduate Committee to chair the examination, and provides an announcement of the final oral examination, which includes the name and department of the candidate together with the title of the thesis and the day, place and time of the final oral examination.

6. The final oral examination is conducted by the student advisory committee at the designated time and place and is open to the faculty. A representative of the MCV Campus Graduate Committee serves as the chair of the examination committee and is a voting member of the examination committee. The subject matter of the examination includes the subject matter of course work as well as the content of the thesis. A favorable vote of the advisory committee with no more than one negative vote is required to indicate that the candidate has passed the final oral examination. All members of the examination committee must vote. The outcome of the final oral examination is reported to the Office of Graduate Education. If the outcome is negative, the final oral examination may be retaken with the approval of the MCV Campus Graduate Committee. Advance approval is requested in writing by the department on behalf of the candidate.
7. The student advisory committee approves the thesis document as acceptable after the final oral examination has been successfully completed. Approval of the thesis as acceptable is indicated by the signature of all members of the advisory committee on the signature page of the thesis. Approval of the thesis by the advisory committee must be unanimous. A thesis is not required for completion of the Master of Genetic Counseling Program. In lieu of the thesis, students in this tract are required to successfully pass comprehensive oral and written examinations.

## Master of Public Health

The M.P.H. degree is offered in three tracks (epidemiology, generalist and social and behavioral science). A minimum of four semesters of full-time study (45 credit hours) is necessary to complete the degree requirements. All M.P.H. students are required to conduct a scientific investigation on a topic relevant to human and public health. The research project is conducted under the guidance of a faculty adviser and a preceptor with expertise in the topic area. The student must prepare a report of the research and give an oral presentation to the department.

## Termination of enrollment

The university reserves the right to terminate the enrollment of any student for unlawful, disorderly or immoral conduct or for persistent failure to fulfill the purposes for which he or she was matriculated.

A student enrolled in a graduate program under the supervision of the MCV Campus Graduate Committee may be dismissed from the school in which he is enrolled for failure to meet academic requirements prescribed by his school or failure to exhibit the attitudes and skills deemed necessary to function within his chosen scientific discipline.

Any action by a graduate student in a program under the supervision of the MCV Campus Graduate Committee considered to be unprofessional conduct shall constitute cause for disciplinary action.

Unprofessional conduct includes, but is not limited to:

1. Fraud or deceit in gaining admission to the university, i.e., false or obviously misleading representations on the admission application
2. An act that violates the established legal standards regarding conduct of one person toward society (i.e., stealing, lying, cheating and slander)
3. Conviction of a felony involving moral turpitude
4. Plagiarism or other scientific misconduct

## Certificate programs

The School of Medicine offers a Post-baccalaureate Graduate Certificate in Premedical Basic Health Sciences.

## MCV Campus Graduate Committee

The assembled directors of graduate programs and the associate dean for graduate education form the MCV Campus Graduate Committee, with the associate dean serving as chair of the committee. This committee holds the responsibility for ensuring appropriate administration of graduate programs, reviewing

modifications of didactic courses, new course offerings and new programs, reviewing proposed modifications of program curricula to ensure maintenance of standards of quality, avoid duplication and comply with the missions of the school, and for recommending action to the dean. The committee members provide the pool of candidates from which the school representatives to the University Graduate Council are chosen.

The School of Medicine follows the policies of the Graduate School with regard to the modification of existing courses, curricula and programs as well as the introduction of new offerings. Proposals will normally come from the faculty acting through departmental bodies charged with the responsibility of monitoring academic training. In the case of offerings in interdisciplinary areas, these will normally require the input and approval of departments whose faculty and students are participants. The associate dean for graduate education in the School of Medicine may assist in the coordination of the proposal process. Proposed changes and additions are, under University guidelines, subject to review by the Curriculum Committee of the school. The MCV Campus Graduate Committee serves as the Curriculum Committee for the School of Medicine. On approval by the MCV Campus Graduate Committee, the approval of the dean of the School of Medicine is required prior to submission to University Graduate Council for review.

For comprehensive information on the School of Medicine departments, programs and faculty, please go to the school Web site at <http://www.medschool.vcu.edu>.

## Professional programs

The School of Medicine offers the Undergraduate Medical Education, leading to the first-professional Doctor of Medicine degree; as well as Graduate Medical Education and Continuing Medical Education. Refer to each program's description for admission and program requirements.

### Undergraduate Medical Education (M.D.)

The School of Medicine offers the first-professional [Doctor of Medicine \(M.D.\)](#) that develops students' clinical skills, professionalism and critical thinking. For more information about admission standards, curriculum requirements and other policies for the M.D. program, refer to the Medicine, Doctor of (M.D.) section of this bulletin.

### Graduate Medical Education

Graduate Medical Education at Virginia Commonwealth University Health System provides diverse opportunities with very high academic and clinical standards for medical and dental graduates to pursue specialty training. Currently we offer over 70 medical and dental programs. The programs are accredited by either the Accreditation Council for Graduate Medical Education (ACGME) or the American Dental Association (ADA). Most of the programs use the ERAS application and the NRMP Matching program. We have over 700 residents training with the Health System and bring in approximately 200 new residents per year.

We encourage all qualified applicants to apply to our programs. For a detailed description of the qualifications and requirements please go to our Web page at [www.medschool.vcu.edu/gme/residency.html](http://www.medschool.vcu.edu/gme/residency.html).

### Continuing Medical Education

The primary goal of the VCU Office of Medical Education is to provide continuing educational experiences specifically designed to enhance the delivery of high quality patient care by physicians and other health care professionals in Virginia and other states. The philosophy of continuing medical education is based on the belief that learning must be viewed as a lifelong process. In past generations, the graduating physician was able to look upon an acquired knowledge base as a reasonably stable resource for practicing medicine. However, today's rapidly expanding load of scientific information forces a continuing learning effort upon the physician. Undergraduate and graduate medical education alone can no longer offer reasonable assurance that practitioners are armed with the knowledge, attitudes and skills that will enable them to render optimal, achievable patient care throughout their careers. Continuing education is now linked with undergraduate and graduate education to complete the continuum of medical education.

The goal and philosophy stated herein undergird and lend direction to the effort of the Office of Medical Education as it engages in a diversity of educational and education-related activities. Specifically, the Office of Medical Education works in

concert with the faculty of the School of Medicine, as well as other individuals and organizations as appropriate, to:

- coordinate a statewide continuing medical education program for several networks of affiliate hospitals,
- organize the Virginia Hospital Television Network and provide continuing education programs for physicians and other health professionals directly into hospitals statewide, using satellite and audio-conferencing,
- develop and deliver a series of short courses, clinical workshops, seminars, international medical study tours and conferences for physicians and other health professionals,
- provide clinical refresher courses and make readily available self-learning materials and methods, conduct research to improve the process of continuing medical education, and
- improve the education of the general public in the proper use of health care resources.

Fostering an appreciation for the concept of lifelong learning in undergraduate and graduate medical school programs is a challenge that is now being confronted by medical schools throughout the nation. During these critical years, the attitudes of medical students toward continuing pursuits of learning are molded and developed. In order to encourage undergraduate and graduate students at VCU to embrace the concept of lifelong learning, the Office of Medical Education actively seeks their involvement in its various programs and activities. Brochures, posters and a yearly catalog are utilized to announce pending events.

Further information may be obtained by writing the Assistant Dean for Continuing Education, School of Medicine, Virginia Commonwealth University, P.O. Box 980048, Richmond, VA 23298-0048.

## Combined degree programs

The School of Medicine offers several combined degree programs:

- M.D./Ph.D. Program
- M.D./M.H.A.
- M.D./M.P.H. Program
- Combined M.S./Ph.D. and D.D.S. degree programs

All programs require review and acceptance by the professional degree program (M.D.) as a condition of entry into the combined degree program. Training for the graduate degree takes place following an initial phase of training in the professional program. Following completion of graduate degree requirements, the final phase of training in the professional degree program is concluded. Consult the appropriate listing for details of the admissions and program requirements.

### Medicine, Doctor of (M.D.)

The program for the M.D. degree is divided into four phases, each of one year's duration. Medicine I, occupying the first year (mid-August to early June), emphasizes normal human structure, function, growth and development. Medicine II, occupying the second year (August to June), stresses the abnormal. Medicine III occupies the third year (July to July) and consists of clinical education and training. Medicine IV, lasting from August to mid-May, consists of approximately one-third required clinical education and training and approximately two-thirds electives at the VCU Health System's MCV Hospitals and at approved medical schools elsewhere in the United States and abroad. Elective opportunities also are offered in M-I and M-II.

School of Medicine students begin their clinical exposure in the first month of medical school in the Foundations of Clinical Medicine course. This longitudinal experience runs throughout the first two years and consists of sessions in a physician's office, small-group sessions, workshops and interacting with standardized patients and simulators. This course gives students the opportunity to learn the clinical relevance of basic science material and to work with a primary care role model. The course provides a fundamental understanding of the skills necessary for all clinical disciplines.

## Admissions

**Whitehurst-Cook, Dr. Michelle**

Associate Dean of Admissions

[www.medschool.vcu.edu/admissions](http://www.medschool.vcu.edu/admissions)

The School of Medicine participates in the American Medical College Application Service. The AMCAS application forms can be obtained from AMCAS, 2450 N. St., N.W., Washington, D.C. 20037-1126. The electronic application is available at [www.aamc.org/students/amcas](http://www.aamc.org/students/amcas). Updated information is available at the School of Medicine Web site: [www.medschool.vcu.edu](http://www.medschool.vcu.edu). Application for the School of Medicine should be made during the first week of June of the year preceding intended matriculation. Letters of recommendation can now be submitted with the AMCAS application.

The closing date for filing applications for this institution is Oct. 15 of the year preceding the enrollment date. Priority for admissions is given to Virginia residents; however 45 percent of each class is from out of state. Members from disadvantaged populations are encouraged to apply to the School of Medicine. Students previously dismissed from a medical school will not be considered. All applicants must be U.S. citizens, permanent residents of the U.S. or Canadian citizens at the time of application. Permanent residents must submit their cards prior to file review.

A nonrefundable \$80 application fee and supplemental information, including letters of recommendation, are required with all applications accepted for further consideration. The final date for returning supplemental information is Jan. 31 of the year of possible enrollment in the School of Medicine. Students are given individual deadlines which are 60 days from the date the Supplemental Application is granted.

The School of Medicine will not matriculate students from other health sciences schools at VCU or any other school until such students have completed the degree program for which they are enrolled.

The School of Medicine participates in the Early Decision Plan. This program permits an applicant to file a single application through AMCAS prior to Aug. 1. All applicants filing under the Early Decision Plan will receive consideration for admission and a response on or before Oct. 1. All applications for the Early Decision Plan must be supported by the results of the new MCAT test at the time the application is made.

The early notification date of this plan ensures that those who are unsuccessful have ample time to request further distribution of their applications to other medical schools. Further information on the Early Decision Plan is available with the AMCAS application.

### Requirements for entrance

The MCAT is required as part of the application. It is necessary that the test be taken no later than September of the year of application. This test is produced by the American College Testing Program, P.O. Box 414, Iowa City, IA 52240, and is administered in colleges and universities throughout the country. Information about the MCAT is available through premedical advisers or directly from the American College Testing Program.

Applicants may be admitted on the basis of 90 semester hours of outstanding achievement. The majority of successful candidates have a college degree at the baccalaureate level or higher. The college major for premedical students should be selected in accordance with the individual student's aptitude and interest. The prerequisites for the School of Medicine have been reduced to a minimum in order to permit the widest possible latitude in preparation for medical education.

Prerequisites for admission include a minimum of 90 semester hours (or the equivalent) in a U.S. or Canadian college or university accredited by the regional accrediting agency. This program of study must include a minimum of:

1. English – two semesters (one semester to include grammar and composition);
2. College mathematics – two semesters;
3. Biological science – eight semester hours, including laboratory experience. This requirement may be satisfied by general biology, general zoology or botany. No more than half may be botany;
4. General or introductory chemistry – eight semester hours, including laboratory. An appropriate portion of this requirement may be met by courses in analytical chemistry or physical chemistry;
5. Organic chemistry – eight semester hours, including laboratory. This course should be equivalent to and acceptable for continued studies in a chemistry major;
6. General or introductory physics – eight semester hours, including laboratory experience.

Students are encouraged to pursue their own intellectual interests in college in order to obtain a broad education consistent with their major program. Courses in medically related science areas will not relieve the student of his/her responsibility for these subjects in the medical curriculum.

### Selection factors

Demonstrated academic ability, as well as attributes of character and personality, are of significance to the admissions committee in the selection process. A review of academic achievement as represented by the standard academic record and summaries, MCAT scores, evaluations and interviews are all sources of information on which the comparative evaluation process is based. A review of the completed application file and interviews with members of the admissions committee are an integral part of the admissions process.

Noncognitive variables also are sought in all candidates. These qualities include, but are not limited to, health care experience, community service and social concern, communication skills both written and oral, leadership, ethical and moral behavior, creativity, compassion and empathy, altruism, personal maturity, self-confidence without arrogance, appropriate motivation, the ability to realistically self-appraise, and a demonstrated ability to work as a team member. These qualities and characteristics are judged by references within the letters of recommendation and from a careful review of the student's essays and extracurricular activities, as well as the interviewers' assessment during the interview. The School of Medicine hopes to create a learning environment where students will meet colleagues whose life experiences and views differ significantly from their own. A physician must be at home and at ease in a wide variety of environments and with a wide variety of people. Students frequently comment that the aspect of the school they appreciate most is the diversity of their class. The admissions process seeks to foster that diversity of perspective and background by admitting students from a wide range of backgrounds — socioeconomic, cultural, geographic and educational. Health care experience is also examined as a true evaluation of the motivation of the candidate for a career in medicine.

The interview is an opportunity for the applicant to become acquainted with the institution and it offers additional information for the selection process. Only on-campus interviews in Richmond are available. Each year more applicants are interviewed than can be accepted in the class. Therefore, an interview is not an indication of acceptance to the School of Medicine.

Offers for admission are made in the Early Decision Plan on Oct. 1 and on the uniform acceptance date after Oct. 15, with admissions occurring at several points thereafter until the class selections have been completed. The approximate dates for acceptance decisions are Oct. 16, Dec. 15, Feb. 1 and March 15. At the time the class is filled, an alternate list of applicants is compiled from which replacements are drawn for any vacancies that may occur in the selected class between notification and the third week of class attendance.

Since selections are made in advance of actual attendance, all acceptances are made on condition of satisfactory completion of courses planned or in progress. It is expected that candidates will maintain acceptable standards of deportment. Students offered acceptance into a class are expected to respond within two weeks of the offer. If such a response presents a problem, extension of the time for the response should be requested. After March 31, students are selected from a wait list of very good candidates until the first day of orientation in August.

The enrollment of accepted candidates is considered complete only after payment of the \$100 deposit toward the first tuition payment. This deposit will be returned to the candidate should withdrawal occur prior to May 15 of the year of attendance. By the act of matriculation into the School of Medicine, the student accepts the responsibilities related to this opportunity and agrees that during the time that he/she is a registered student he/she will follow the rules and regulations established by the governing bodies of the School of Medicine and the university.

### Transfer in advanced standing

Advanced standing admission is open only to students who previously have not been dismissed from any medical school and who are in good standing in LCME-accredited American or Canadian medical schools. Transfers are only at the third-year level and are limited in number each year. Interested students should request information between Jan. 1 and Jan. 15 of the year they wish to transfer. Applicants must pass Step 1 of the U.S. medical licensing examination prior to matriculation. Transfers are handled by the VCU School of Medicine curriculum office.



For additional information please see the Frequently Asked Questions About Transfer location on the VCU School of Medicine Web site at [www.medschool.vcu.edu/curriculum/Transv.html](http://www.medschool.vcu.edu/curriculum/Transv.html).

### Disability Support Services

Virginia Commonwealth University in agreement with Section 504 of the Rehabilitation Act of 1973 and The Americans with Disabilities Act of 1990 provides reasonable accommodation to any individual who advises us of a disability. We wish to provide new and current students who have a disability the opportunity to voluntarily identify themselves.

Early identification permits the Coordinator of Services for Students with Disabilities the opportunity to acquire verification of the disability, if required, and the opportunity to get appropriate accommodations in place as soon as possible. All accommodations request are handled on an individual basis. Examples of some accommodations are; extended test taking time, alternative testing format, note takers, readers, scribes, quiet testing area, sign language interpreters, assistive technology and computer software programs which are located in the library for student use.

If you are an individual with a disability and wish to identify yourself as such, please contact the Office of Disability Support Services. It is important to note that all disclosures are confidential and are released only with your permission. A comprehensive VCU Handbook for Students with Disabilities is available upon request. **Be sure to include your name, address and phone number if you write.** We also are available to answer questions about accommodations and services.

Director, VCU Office of Disability Support Services P.O. Box 980124  
Richmond, VA 23298-0124 (804) 828-9782 VTDD (804) 828-4608 FAX  
(804) 828-4609 [www.vcuhealth.org/vp/sassdss](http://www.vcuhealth.org/vp/sassdss)

### C<sup>3</sup> curriculum (for students matriculating in 2013)

**Wood, Dr. Isaac K.**

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Beginning in August 2013, the School of Medicine will implement the C<sup>3</sup>

#### Curriculum:

Centered on the needs of the learner

Clinically driven

Competency based

The program for the M.D. degree will be divided into four phases:

**MS I: The Scientific Foundations of Medicine** – This course lasts one semester and is aimed at getting the students who come to medical school with a variety of backgrounds at the same point regarding foundational knowledge necessary for the practice of medicine. The course consists of five subsections:

- The Molecular Basis of Health and Disease
- Fundamentals of Physiology
- Principles of Autonomics and Pharmacology
- Infection and Immunity
- Foundations of Disease

**MS II: The Applied Medical Sciences** – This course is taught over the next two semesters. Using an integrated, organ-system approach, normal functioning is taught in tandem with disease and its treatment. This course includes four subsections:

- Marrow and Movement
  - Musculoskeletal
  - Hematology/Oncology
- Glands and Guts
  - Gastroenterology
  - Endocrinology
  - Reproduction
- Circulation, Respiration and Excretion

- Cardiology
- Pulmonary
- Renal/Genitourinary
- Mind, Brain and Behavior
  - Neurosciences
  - Behavioral Sciences
  - Neurology/Neurosurgery

**MS III: Clinical Concentrations** – Covering the next 48 weeks of medical education, the clinical concentrations provide training in health care delivery. There are three groups:

- Group A: Consists of eight weeks of surgery, six weeks of obstetrics and gynecology and a two-week flexible period.
- Group B: Consists of eight weeks of inpatient internal medicine, six weeks of pediatrics and a two-week flexible period.
- Group C: Consists of four weeks of neurology, four weeks of family medicine, six weeks of psychiatry and a two-week flexible period.

The flexible periods allow students to participate in a longitudinal care experience whereby they follow patients with a particular type of disease (e.g., cardiovascular) over the course of a year; are able to take mini-electives and experiences areas of medicine not traditionally represented in the clinical tracks (e.g., anesthesiology); remediate any areas where a student has not been found to be competent; and participate in electives at other medical schools.

**MS IV: Advanced Clinical Concentrations** – This consists of two, 16-week blocks aimed at preparing medical students for the supervised practice of medicine. Requirements include:

- Two acting internships (one in either pediatrics, internal medicine or general surgery and the second in a field selected by the student)
- A four-week ambulatory experience in the clinical area chosen by the student
- Integrated critical care simulations where students learn to manage the most commonly encountered, life-threatening medical emergencies follow be a rotation in the emergency department
- A scholarly project
- An advanced, online basic sciences course (e.g., advanced acid-base disorders, management of fluid and electrolyte disorders, neurosciences, etc.)
- Recommended clinical tracks based on the residency choice of the student

In addition there are longitudinal themes that run throughout the four years of medical school:

- The Practice of Clinical Medicine
- The Physician, Patient and Society
- Population Health, Biostatistics, Bioinformatics, Evidence-Based Medicine and Research Methodologies
- Patient Safety
- Interprofessional Education

### U.S. Medical Licensing Examination

All students are required to take the U.S. Medical Licensing Examination Step 1 prior to the start of the clinical rotations. Failure to do so will result in dismissal. The only exception to this policy is students who receive a grade of CN (Competency Not Achieved) during the M2 year and who must take a repeat examination(s) during the summer break. Those students may postpone the M3 year by up to six weeks for the initial attempt at Step 1. Students are required to pass Step 1 before beginning advanced clinical concentrations. Students are allowed three attempts to pass Step 1. If they do not pass by the third attempt, they will be automatically dismissed. The first attempt must be prior to the start of the M3 year (see exception above). The second attempt must be prior to Jan. 1 of the M3 year and the third attempt must be prior to July 1 of the M3 year. Failure to take the examination by any of the prescribed dates is grounds for dismissal. Students will be allowed up to eight weeks in an independent study elective for preparation prior to both the second and third attempts. Regardless of circumstances, all students must participate in M3 orientation when originally scheduled. Requests to delay the first attempt should be directed to the Curriculum

Office and include appropriate justification for the delay. Requests are approved by the senior associate dean for medical education and student affairs.

All students are required to meet with the school designee(s) to prepare an individual study plan for Step 1. After the end of the M2/MS2 year, students are required to take the practice-USMLE examination provided by the National Board of Medical Examiners prior to beginning a plan of study. Students are required to report their results to the school designee(s). Subsequently, students will be required to repeat the examination and report results as deemed necessary by the school designee(s). Students are responsible for the costs incurred to take the practice examinations.

All students are required to take the U.S. Medical Licensing Examination Step 2 CK and CS for the first time after completion of their M3 year or by Nov. 1 of the M4 year. Failure to do so will result in dismissal. Students are required to pass USMLE Step 2 CK and CS for graduation. Students are allowed three attempts to pass Step 2 CK and CS. If they do not pass by the third attempt, they will be automatically dismissed. The first attempt for both must be prior to Nov. 1 of the M4 year. The second attempt for both must be prior to Jan. 15 of the M4 year and the third attempt for both must be prior to April 15 of the M4 year. Students who do not take the examination by these dates may be subject to dismissal for failure to make satisfactory academic progress. Students will be allowed up to an eight-week period in an independent study elective for preparation prior to both the second and third attempts of Step 2 CK. Students will be allowed up to a four-week period in an independent study elective for preparation prior to the second and third retakes of Step 2 CS.

Time off from clerkships/elective rotations is not granted to take the Step 2 exam. Students should plan to take this exam when clinical responsibilities have not been scheduled (e.g., spring break, etc.)

Students, who for whatever reason, are not on the traditional calendar trajectory for graduation (e.g. dual-degree students), will have individualized plans for retaking the USMLE based on the time guidelines above.

Students who fail Step 1 or Step 2 may request additional financial aid to take a commercial board prep course. Additional funds will be granted one time only.

## Grading and promotions

For classes matriculating in 2013 or later, the Pre-Promotions Committee consisting of the MS1 and MS2 course directors will review the progress of every student at the end of the Scientific Foundations of Medicine, first semester of Applied Medical Sciences and second semester of the Applied Medical Sciences and make recommendations to the Promotions Committee regarding promotion/advancement, dismissal or remediation. This committee will be chaired by the assistant dean for pre-clinical education (ex officio, non-voting member). The clerkship directors will serve as the Pre-Promotions Committee for the Clinical Concentrations and Advanced Clinical Concentration and review student progress annually, making recommendations to the Promotions Committee regarding promotion/advancement, dismissal or remediation. This committee will be chaired by the assistant dean for clinical education (ex officio, non-voting member).

The committees evaluate each student who earned an unsatisfactory grade, has demonstrated unprofessional behavior or an overall pattern of failure to make satisfactory academic progress and makes recommendations to the Promotions Committee regarding promotion/advancement, remediation, dismissal or repeating a year. Students who are at-risk for an adverse outcome are strongly advised to meet with the associate dean of student affairs and submit a written letter to the Pre-Promotions and Promotions Committees describing the circumstances from their perspective. The School of Medicine Promotions Committee meets within 48 hours of the Pre-Promotions Committee. The Promotions Committee, consisting of the chairs of the basic science and clinical departments, will review the recommendations of the Pre-Promotions Committees and make all final decisions about promotion/advancement, repeating an academic year/remediation and dismissal. The Promotions Committee is chaired by the senior associate dean for medical education and student affairs (ex officio, non-voting member). The Promotions Committee is charged to give careful attention to all aspects of student achievement, effectiveness, behavior and attitude since matriculation. The Promotions Committee shall not promote/advance any student who has failed to meet the requirements of the preceding year/semester or who appears unfit for the practice of medicine. In consideration of one's fitness for the practice of medicine and in recognition of the critical role of professionalism in being an effective physician, the Promotions Committee shall not promote/advance any student who has demonstrated a significant lack of either integrity or professionalism as outlined in the School of Medicine Standards of Professional Behavior and the competencies of the School of Medicine.

When the Promotions Committee determines by majority vote that a student will not be promoted/advanced, it then recommends remedial activities or dismissal in instances where no remedy is perceived. A student repeating the entire year/semester is expected to achieve competency in all courses taken previously or be immediately dismissed. The Promotions Committee typically uses decisions reached in years past as guidelines for determining its recommendations.

**For classes matriculating in 2013 or later, the following guidelines will apply. It should be noted that these only serve as guidelines for the Promotions Committee which may recommend other remediation or dismissal:**

**MS1/MS2:** For the Scientific Foundations of Medicine, the student must achieve competency in each division and have an overall course score of 70% to be promoted to the level MS2a. If the student fails to obtain Competency Achieved (CA) in one division, they will be allowed to take a re-examination in that division. The re-examination will occur upon return from the winter break and if the student scores 70% or higher on the exam, they will be allowed to advance to the next level. If a student's overall grade in the Scientific Foundations is less than 70% or they have a score of less than 70% in more than one division, or the student fails a re-examination in a single division in which Competency is Not Achieved (CN), they will be required to repeat the entire course the next academic year. The cumulative examination at the end of the course will count 10% toward the final grade in the Scientific Foundations of Medicine. Failure to score 70% on the course cumulative exam will not require remediation of the exam nor the Scientific Foundations of Medicine course, provided the student has a cumulative average of 70% or higher in the overall course. Students must pass every division in a repeat semester or they will automatically be dismissed.

The Applied Medical Sciences is divided into two semesters with two courses scheduled each semester. Students must score 70% or higher in each division of each course and obtain an overall grade of 70% to receive Competency Achieved (CA) in a course. If the student does not obtain CA in a single division, they will be allowed to take a repeat examination at the end of that semester in which the Competency Not Achieved (CN) was received. If they score 70% or higher on the re-examination, they will get Competency Achieved for the course. Failure of a course, failure of more than two divisions in a semester or failure of the re-examinations will result in the student being required to repeat the semester. Students must pass each division in a repeat semester or they will automatically be dismissed.

There are three longitudinal courses: Physician, Patient and Society; Population Health; and the Practice of Clinical Medicine. Students must receive Competency Achieved in each of these courses in order to be promoted to the next level. Failure to obtain CA in these courses will require remediation during the summer. The requirements for remediation will be set by the course masters of these courses. Failure to successfully remediate will result in the student being required to repeat the entire year.

### The appeal process

Students may appeal decisions of dismissal, except for dismissals by the Honor Council (which should be appealed through the appropriate Judicial Affairs procedures). Students also may appeal decisions to repeat a year/semester or to not be graduated. Such appeals will be heard by the Appeals Committee. The Appeals Committee shall consist of three faculty members, elected by the faculty with staggered terms. One of those members shall be designated by the dean as the chair. A student will be granted an appeal hearing only if two senior faculty members selected by the dean agree that any of these situations occurred:

- The Promotions Committee process was conducted unfairly or without regard to prescribed procedure or protocol.
- There is new evidence or relevant information not available at the time of the Promotions Committee meeting that if consequential, would have altered the decision of the Promotions Committee.
- The original decision was not supported by substantial evidence.
- The sanction imposed was disproportionate to the gravity of the situation.

### Procedure

- A student must file an appeal in writing to the dean's office within 14 calendar days of the date of the mailing of the student's notice of action of the Promotions Committee. The student will be notified via email and through the postal service. The date of the email marks the official start of the appeal process.

- The student's appeal will be reviewed by two senior faculty members who will decide if there are sufficient grounds to conduct an appeal hearing. This decision will be made within 14 calendar days of receiving the student's written appeal.
- If a hearing is warranted, the Appeals Committee will meet within 21 calendar days of the review by the senior faculty members.
- The appealing student has the right to appear before the Appeals Committee, but the time available to him/her may be limited by the Appeals Committee chairperson. The time limitation will not be less than one-half hour.
- The student may have anyone who would serve him/her as an adviser present during his/her presentation to the Appeals Committee. The adviser may participate in the student's presentation (within the time limits set forth above) and may address questions to the representative of the Promotions Committee.
- The student may have an attorney present, but the attorney may not participate in this academic hearing nor serve as an adviser to the student.
- The appealing student has the burden of proof. The senior associate dean for medical education and student affairs will present the findings of the Promotions Committee and describe their discussion to the Appeals Committee.
- The student, his/her representative, the senior associate dean for medical education and student affairs, and the dean's representative are not present during the deliberations or voting of the Appeals Committee.
- All components of the appeal process are recorded except the deliberations. The recording represents the sole, official, verbatim record of the hearing and is the property of Virginia Commonwealth University School of Medicine.

The Appeals Committee will send its findings and recommendation and the recorded vote to the dean of the School of Medicine who must act upon the recommendation within 14 calendar days. The dean's decision is final and may not be appealed. Students who have been dismissed may reapply to medical school as a matriculating student.

## Withdrawal

Students may withdraw after meeting with the senior associate dean for medical education and submitting a letter requesting withdrawal.

## Requirements for graduation

The degree of Doctor of Medicine will be conferred by Virginia Commonwealth University upon candidates who, in the opinion of the medical faculty, have:

- Attained the School's educational competencies as evidenced by satisfactory completion of prescribed courses, clerkships, clinical experiences and examinations, by proven clinical skills and responsibilities, and by ethical standards.
- Passed Step 1, Step 2CK and Step 2CS of the U.S. Medical Licensing Examination before graduation (May of the M4 year).
- Attended the School of Medicine for a minimum of two years, one of which must be an academic year of clinical rotations.
- Discharged all financial obligations to the University.
- The School of Medicine requires candidates to be present at both the VCU commencement exercises and the School of Medicine's own convocation exercises unless excused by the dean.

## Curriculum for students matriculating in 2012 or earlier

### Wood, Dr. Isaac K.

Senior Associate Dean for Medical Education and Student Affairs

[iwood@vcu.edu](mailto:iwood@vcu.edu)

(804) 828-9791

The program for the M.D. degree is divided into four phases, each of one year's duration. Medicine I, occupying the first year (mid-August to early June), emphasizes normal human structure, function, growth and development. Medicine II, occupying the second year (August to May), stresses pathological conditions. Medicine III occupies the third year (July to July) and consists of clinical education and training. Medicine IV, lasting from August to mid-May, consists of

approximately one-fourth required clinical education and training with the remainder open for electives at the Virginia Commonwealth University Medical Center and at approved medical schools elsewhere in the U.S. and abroad. Elective opportunities also are offered in M-I and M-II.

Registration in courses offered by the School of Medicine is restricted to students enrolled in the School of Medicine at Virginia Commonwealth University.

## Medicine I and II

The curriculum is viewed as a dynamic and evolving entity and course titles, content or duration of emphasis may be subject to modification for the sake of improving the learning experience.

Each course in M-I and M-II is designed and implemented by a faculty committee and each phase of the curriculum is supervised by a faculty coordinator.

### M-I Curriculum

The first year of medical school, from mid-August to early June, focuses on the normal human structure, function, growth and development.

- Foundations of Clinical Medicine – [www.medschool.vcu.edu/admissions/fcm.html](http://www.medschool.vcu.edu/admissions/fcm.html)
- Medical Bioethics
- Population Medicine
- Medical Biochemistry
- Human Genetics
- Gross and Developmental Anatomy
- Physiology
- Histology
- Behavioral Sciences
- Immunology
- Neurosciences

Total courses: 11

### M-II Curriculum

The second year, from early August to late May, emphasizes the pathologic manifestations in the treatment of diseases. All students participate in the following courses:

- Foundations of Clinical Medicine
- Medical Bioethics
- Pharmacology
- Pathogenesis
- Microbiology
- Hematology-Oncology
- Endocrine
- Renal
- Respiratory
- Cardiovascular
- Behavioral Sciences II
- Central Nervous System
- Women's Health
- Gastrointestinal
- Musculoskeletal

Total courses: 15

## Medicine III

### M-3 Clerkships

During the third year, students receive clinical training by rotating through the various hospitals and ambulatory services. This rich clinical experience is supplemented by didactic presentations on practice-related topics. All students participate in the following clerkships:

- Internal Medicine (12 weeks)
- Surgery (8 weeks)
- Pediatrics (8 weeks)
- Obstetrics/Gynecology (6 weeks)
- Psychiatry (6 weeks)
- Neurology (4 weeks)
- Family Practice (4 weeks)
- M-III Workshop (1 week)

Total required rotations: 8

## Medicine IV

### M-IV Curriculum

M-IV is an elective year, with more than 200 electives offered. Each elective is four weeks long.

The School of Medicine, in an effort to best serve the needs and goals of the individual student, offers M-IV students the option of choosing electives during the majority of their senior year. The elective curriculum has been arranged primarily to allow those students who have definite goals to pursue them logically without adherence to a required curriculum. At the same time, it allows those who have not yet defined their goals an adequate assortment of electives with which to explore career options. Where standard elective choices seem too limiting, students are encouraged to approach individual faculty members relative to the development of unique courses that more closely approach individual needs. A member of the M-IV Advisory Committee is available to advise each student and to approve each student's program.

The year is divided into nine four-week periods. The required rotations, which must be served at the MCV Campus or an affiliated institution such as Inova-Fairfax Hospital or the McGuire VA Medical Center, are an acting internship and an emergent care selective in anesthesia, emergency medicine or one of the intensive care units. All students are required to take the year-end Update of Basic Sciences and Clinical Medicine course.

A description of the creation of the M-IV schedule, including Electives Guidelines and the policy for Visiting Students is presented in the Senior Electives Catalog section of the [School of Medicine website](#).

## U.S. Medical Licensing Examination

All students are required to take the U.S. Medical Licensing Examination Step 1 prior to the start of the M-III year. Students are required to pass Step 1 for promotion to the M-IV year. If a student fails Step 1, he or she will be allowed to complete the current M-III clerkship and be required to take time off during the M-III year in an elective status to study for and retake the exam. The time off will be individualized for each student after discussion with the curriculum office and approval by the Promotions Committee. Failing to pass the exam after three attempts will result in dismissal.

All students are required to take U.S. Medical Licensing Examination Step 2 CK and CS for the first time after completion of their M-III year or by Dec. 1. Students are required to pass USMLE Step 2 CK and CS for graduation. Failure to pass either examination after three attempts will result in dismissal.

## Grading and promotions

Each student's progress toward his/her objectives is evaluated by examination in each area of subject matter and by national board examinations at appropriate times. Grades are assigned as honors, high-pass, pass, marginal or fail. Students receiving marginal or fail grades are counseled. All students are assigned a faculty adviser, available to the student throughout the four years of study.

Students who have attained satisfactory grades in M-I and M-II, but who do not pass U.S. Medical Licensing Examination Step 1, must take time off to study the basic medical sciences during the third school year, prior to their repeating the Step 1 examination. These students will use part of their fourth year to complete the segments omitted during the study time. Students must pass USMLE Step 1 to be promoted to the M-IV year.

At the close of each academic year, the Promotions Committee, composed of department chairs, recommends to the dean which students have achieved the objectives of the year and which students are qualified for either promotion or

graduation. The Promotions Committee is charged to give careful individual attention to all aspects of student achievement, effectiveness, behavior and attitude. The Promotions Committee shall not recommend for promotion any student who has failed to meet the requirements of the preceding year or who appears unfit for the practice of medicine. In consideration of one's fitness for the practice of medicine and in recognition of the critical role of professionalism in being an effective physician, the Promotions Committee shall not recommend for promotion any student who has demonstrated a significant lack of either integrity or professionalism as those concepts are outlined in the School of Medicine Standards of Professional Behavior. When the committee determines by majority vote that a student will not be promoted, it then recommends to the dean remedial activities or dismissal in instances where no remedy is perceived. The dean reviews the recommendations and promptly notifies students that they have been promoted, have to repeat a year, require specific remediation or have been dismissed. A student repeating the year is expected to show significant improvement. The Promotions Committee also will meet each January to review the status of all senior students, all third-year students and M.D./Ph.D. candidates. At this meeting, the committee also will review any other students in serious academic difficulty and may choose to take final action, including dismissal, on such students.

An Appeals Committee of three senior faculty members will hear appeals of dismissals when such are filed in writing within 14 days of the student's notice of dismissal. A student also may appeal a decision to repeat a year, but such appeals will be reviewed by the Appeals Committee only when it is found that the student will present information not previously available to the Promotions Committee. A student appealing has the right to appear before the Appeals Committee and to have an adviser participate. The dean of the School of Medicine will act upon the recommendation of the Appeals Committee within 14 days of receipt of the committee's recommendation.

**For classes matriculating in 2012 or earlier, the following guidelines will apply. It should be noted that these only serve as guidelines for the Promotions Committee which may recommend other remediation or dismissal:**

**M1/M2:** If a student does not achieve competency in one course, he/she will be required to take a repeat examination. If the student does not achieve competency on the repeat examination, he/she will be required to repeat the year and pass all courses previously taken. If the student passes the examination, he/she will be promoted to the next year.

If a student does not achieve competencies in two courses, he/she will be required to take a repeat examination in each course. If the student does not pass both examinations, he/she will be required to repeat the year and pass all courses previously taken. If the student passes both examinations, he/she will be promoted to the next year.

If a student does not achieve competencies in three courses, he/she will be required to repeat the year and pass all courses previously taken. If a student does not achieve competency in four courses, he/she will be dismissed.

**M3:** If a student earns a less than passing grade in a core clinical clerkship, his or her file will be reviewed in the Promotions Committee process. If a student has a fail in a clerkship, the student is required to repeat the entire clerkship in his/her fourth year. If the student has three less-than-passing grades on the first attempt in core clinical clerkships, the student is required to repeat the third year. A student repeating the entire year is expected to pass all clerkships taken previously or be immediately dismissed. A marginal grade is not a passing grade. If a student has four less-than-passing grades in core clinical clerkships, he or she may be dismissed. Students are required to pass USMLE Step 1 for promotion to the advanced clinical phase.

**M4:** A student with one grade of Marginal in a non-required M4 elective may be allowed to graduate without remediation. A grade of Fail in any elective or a grade of Marginal in a required experience (e.g., an acting internship or urgent care elective) must be remediated. Appropriate remediation is determined by the elective director in consultation with the Senior Associate Dean for Medical Education and Student Affairs.

### The appeal process

Students may appeal decisions of dismissal, except for dismissals by the Honor Council (which should be appealed through the appropriate Judicial Affairs procedures). Students also may appeal decisions to repeat a year/semester or to not be graduated. Such appeals will be heard by the Appeals Committee. The Appeals Committee shall consist of three faculty members, elected by the faculty with

staggered terms. One of those members shall be designated by the dean as the chair. A student will be granted an appeal hearing only if two senior faculty members selected by the dean agree that any of these situations occurred:

- The Promotions Committee process was conducted unfairly or without regard to prescribed procedure or protocol.
- There is new evidence or relevant information not available at the time of the Promotions Committee meeting that if consequential, would have altered the decision of the Promotions Committee.
- The original decision was not supported by substantial evidence.
- The sanction imposed was disproportionate to the gravity of the situation.

#### Procedure

- A student must file an appeal in writing to the dean's office within 14 calendar days of the date of the mailing of the student's notice of action of the Promotions Committee. The student will be notified via email and through the postal service. The date of the email marks the official start of the appeal process.
- The student's appeal will be reviewed by two senior faculty members who will decide if there are sufficient grounds to conduct an appeal hearing. This decision will be made within 14 calendar days of receiving the student's written appeal.
- If a hearing is warranted, the Appeals Committee will meet within 21 calendar days of the review by the senior faculty members.
- The appealing student has the right to appear before the Appeals Committee, but the time available to him/her may be limited by the Appeals Committee chairperson. The time limitation will not be less than one-half hour.
- The student may have anyone who would serve him/her as an adviser present during his/her presentation to the Appeals Committee. The adviser may participate in the student's presentation (within the time limits set forth above) and may address questions to the representative of the Promotions Committee.
- The student may have an attorney present, but the attorney may not participate in this academic hearing nor serve as an adviser to the student.
- The appealing student has the burden of proof. The senior associate dean for medical education and student affairs will present the findings of the Promotions Committee and describe their discussion to the Appeals Committee.
- The student, his/her representative, the senior associate dean for medical education and student affairs, and the dean's representative are not present during the deliberations or voting of the Appeals Committee.
- All components of the appeal process are recorded except the deliberations. The recording represents the sole, official, verbatim record of the hearing and is the property of Virginia Commonwealth University School of Medicine.

The Appeals Committee will send its findings and recommendation and the recorded vote to the dean of the School of Medicine who must act upon the recommendation within 14 calendar days. The dean's decision is final and may not be appealed. Students who have been dismissed may reapply to medical school as a matriculating student.

#### Withdrawal

Students may withdraw after meeting with the senior associate dean for medical education and submitting a letter requesting withdrawal.

#### Requirements for graduation

The degree of Doctor of Medicine will be conferred by VCU upon candidates who, in the opinion of the medical faculty, have:

- Attained the schools educational objectives as evidenced by satisfactory completion of prescribed courses and examinations, by proven clinical skills and responsibilities, and by ethical standards.
- Passed Step 1, Step 2CK and Step 2CS of the U.S. Medical Licensing Examination before graduation (April of the M-IV year).
- Attended the School of Medicine for a minimum of two years, one of which must be an academic year of clinical rotations.
- Discharged all financial obligations to the university.

It is the policy of the School of Medicine that candidates must be present at commencement exercises unless excused by the dean.

#### School of Medicine core competencies and objectives

**Professionalism:** The ability to understand and demonstrate the nature of professional and ethical behavior in the act of medical care. This includes respect, responsibility, accountability, excellence, honor, integrity, altruism, leadership, cultural competency, compassion, maintenance of professional boundaries and confidentiality.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Provide compassionate care to patients with respect for their privacy and dignity
- Display honesty, integrity and responsibility in all educational settings and in interactions with patients, their families and colleagues
- Demonstrate altruism by consistently advocating for the patient's best interest
- Summarize and put into practice the principles of ethical decision-making
- Demonstrate accountability to the patient, society and the profession through a commitment to excellence and on-going professional development
- Appraise threats to the medical profession posed by the conflicts of interest inherent in the various financial and organizational arrangements within the practice of medicine
- Participate as an active member of the learning community and facilitate the learning of peers and other health care professionals
- Demonstrate knowledge of the psychological and physical risks and stressors of the practice of medicine
- Identify possible impairments in function and practice techniques for harm reduction

**Patient engagement and communication (interpersonal and communication skills):** The ability to engage and communicate with patients, their families and professional associates, using interpersonal skills to build relationships for information gathering, guidance, education, support and collaboration.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Create and sustain therapeutic and ethically sound relationships with patients and their families
- Employ effective oral and written communication skills to elicit and convey information while building rapport with patients, their families and professional associates
- Build collaborative relationships across both educational and clinical environments with patients, their families and professional associates
- Demonstrate the ability to engage in shared decision-making with patients and their families or individuals designated to fulfill this responsibility for the patient
- Demonstrate techniques of patient education and counseling in basic lifestyle changes and disease prevention

**Application of scientific knowledge and method (medical knowledge):** The ability to discuss the biomedical, epidemiological and social-behavioral aspects of clinical science and apply this knowledge to patient care.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Use the scientific method to analyze basic, translational and clinical research
- Delineate the molecular basis for the functions of organs and systems in health and disease
- Describe, apply and integrate the normal and pathologic structure and function of each organ system of the body
- Describe, apply and integrate the ways in which organ systems are affected by the various causative mechanisms of disease
- Recognize the clinical, laboratory, radiographic and pathologic manifestations of disease



- Describe, apply and integrate the scientific basis of disease prevention and treatment, including intended and unintended effects
- Apply evidence-based medicine to determine the causation of disease and the efficacy of traditional and non-traditional therapies
- Appraise the impact of social-behavioral factors on health maintenance, causation of disease and therapeutic outcomes

**Patient care:** The ability to provide patient care that is appropriate and effective for the treatment of health problems and the promotion of health.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Be able to obtain a complete history and perform a comprehensive physical/mental status examination
- Utilize a focused history and physical and mental status examination to obtain relevant clinical information in an efficient manner
- Recognize patients with immediate life-threatening or serious conditions that require critical care and outline an initial course of management
- Discuss with and provide to patients and their families information and counseling aimed at disease management, prevention and wellness
- Identify the epidemiology of common conditions within a defined population and apply systematic approaches to help reduce the incidence and prevalence of these conditions
- Describe the indications, risks, limitations, complications and interpretation of commonly used diagnostic tests
- Perform routine procedures competently and identify the indications, risks, limitations, justifications, complications and interpretations of these procedures
- Construct appropriate assessments, differential diagnoses and treatment plans for patients across the spectrum of medical presentations
- Gather, interpret and apply ongoing relevant clinical information in the care of patients
- Select appropriate tests for detecting patients at risk for specific diseases and determine strategies for responding appropriately
- Utilize information technology to gather patient data, support patient care decisions and educate patients and their families

**Putting care in practical context (systems-based practice):** The ability to provide clinical care within the practical context of a patient's age, gender, personal values, family, health literacy, culture, religion, and social and economic circumstances. This goal includes consideration of relevant ethical, moral and legal perspectives, patient advocacy, public health concerns, and resources and limitations of the health care system.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Obtain patient histories including information about patients' culture and other factors that may influence the appropriate course of care
- Perform culturally sensitive physical exams
- Identify cultural barriers that are perceived by patients as impacting health and health care
- Develop plans of care that take into account pertinent cultural attributes of patients and address barriers perceived by patients
- Compare and contrast various approaches to the organization, financing and delivery of health care
- Demonstrate understanding of the legal framework within which physicians function
- Describe the various roles and responsibilities of members of the health care team
- Interact effectively with all members of the health care team to provide the best possible care for patients
- Relate the effect of public policy actions to individual health and health care systems as a whole
- Define the methods used by individuals and systems to improve quality of care

- Practice a commitment to provide care to patients who are unable to pay and to advocate for access to health care for members of underserved populations
- Recognize and appropriately address gender and cultural biases in themselves and others and in the process of health care delivery

**Self-directed learning and self-assessment (practice-based learning and improvement):** The ability to assess and understand one's learning style, to self-identify areas of strength and weakness, to independently identify and evaluate resources to engage in lifelong learning, and to critically appraise the evolving body of medical knowledge.

Students who are graduated from Virginia Commonwealth University School of Medicine will:

- Demonstrate the understanding of the limitations of one's own knowledge and skills and seek to engage in lifelong learning and the advice and teaching of more experienced medical practitioners to address those limitations
- Demonstrate the understanding of the limitations of the role of a physician
- Demonstrate the understanding of the limitations of the evolving body of medical knowledge
- Retrieve, critically review and utilize biomedical and biopsychosocial information
- Identify means to maintain a healthy balance between professional and personal responsibilities to optimize mental, physical and emotional well-being

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## School of Medicine Registrar

The School of Medicine houses a Registrar's Office to meet the needs of physician trainees and alumni. Visit the School of Medicine Web site for more information at [www.medschool.vcu.edu/registrar](http://www.medschool.vcu.edu/registrar).

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## Criminal background checks

All applicants to the VCU School of Medicine who receive an acceptance will have a criminal background check performed by Certiphi Screening Inc. If there is a positive finding you will be notified by Certiphi first; this will allow you to make corrections to the report and verify the information. If there is no change in your status Certiphi will then notify VCU of their positive findings. VCU's Criminal Background Committee will meet to discuss your Certiphi report to determine if acceptance is to be withdrawn. We encourage full disclosure at all times on the AMCAS and supplemental applications, as dishonesty will impact the committee's decision. If you have a legal finding or institutional action against you after the supplemental is submitted please notify our admissions office immediately. Once an applicant is matriculated, full disclosure is also required throughout your time in medical school. Criminal background checks are repeated for all students at the end of the second year and for specific program participations throughout medical school.

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## Health policies

Virginia Commonwealth University School of Medicine requires that all medical students carry active health insurance. Health insurance benefits must be equal to or greater than those provided by the university health carrier. In addition, it is required that all students complete required immunizations within six months of matriculation and have repeat tuberculosis screening performed annually. For details related to these policies, please visit [www.medschool.vcu.edu/studentactivities](http://www.medschool.vcu.edu/studentactivities).

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## Student organizations

The School of Medicine, through the Office of Student Affairs, provides oversight to all of the organizations available to medical students. All student organization are required to register with the Office of Student Affairs following established policy and the approved registration format.

For more information, visit the School of Medicine student organizations Web page at [www.medschool.vcu.edu/studentactivities/studentorganizations.htm](http://www.medschool.vcu.edu/studentactivities/studentorganizations.htm).

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## Combined Doctor of Medicine (M.D.) and Master of Public Health (M.P.H.)

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**Note:** Students applying to the joint M.D./M.P.H. program should be accepted to the VCU School of Medicine prior to applying to the M.D./M.P.H. program. MCAT acceptable in lieu of GRE for combined professional/academic degree programs.

The Division of Epidemiology in the Department of Family Medicine and Population Health offers a program for VCU medical students to obtain a Master of Public Health degree in conjunction with their medical training. The M.D./M.P.H. dual-degree program provides an opportunity for medical students who wish to pursue a public health or research career to graduate from medical school trained in both clinical and preventive, population-oriented medicine. Graduates from this program are prepared for positions in preventive medicine, primary care, research, community-based health centers and local health departments. Students complete a set of core and required courses plus nine credits of elective course work and a capstone project.

The objective of the dual-degree M.D./M.P.H. program is to provide high quality and in-depth training in public health to qualified medical students. The five-year program includes four years of medical school and one year of study in the M.P.H. program. During the M.P.H. year students take a minimum of 30 credits of didactic courses. To complete the M.P.H. requirements, students receive 12 credits for successful academic work during the first two years of medical school and take a minimum of one public health elective during the M-IV year. Students may register for the M.P.H. year either prior to entering medical school or after the M-III year and prior to M-IV electives. Enrollment in the dual-degree program requires admission into both the School of Medicine and the Graduate School. Students must successfully complete all required course work to receive both degrees at the completion of the five years.

#### Dual M.D.-M.P.H. program curriculum

	Credits
<b>Fall</b>	
BIOS 547 Applied Data Analysis in Public Health I	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 593 MPH Practicum	2
HCPR 601 Introduction to Health Policy	3
SBHD 605 Introduction to Social and Behavioral Health	3
Electives	3
<b>Spring</b>	
BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 604 Principles of Environmental Health	3
EPID 694 MPH Research Project	3
Elective	3

Selected course work completed during the M-I and M-II years of study for application toward the M.D. accounts for 12 credits toward the M.P.H. degree. This includes EPID 571. A public health elective rotation during the M-IV year satisfies the public health internship requirement.

#### Combined Doctor of Medicine (M.D.) and Doctor of Philosophy (Ph.D.)

The M.D./Ph.D. Program seeks to train physician-scientists for careers that bridge basic and clinical science. Physician-scientists will translate laboratory discoveries into better patient outcomes. The program begins two months prior to the first year of medical school. These students arrive on campus for orientation and complete two laboratory rotations before the start of medical school classes. They complete the first two years of medical school and, after taking the first part of the U.S. National Medical Licensing Examination, enter a Ph.D.-granting department or program as a graduate student. Graduate-level course work, examinations and research will be guided by the thesis adviser and the thesis committee, with oversight by members of the M.D./Ph.D. Steering Committee. The main undertaking at this phase is laboratory research that leads to the Ph.D. dissertation. After completion of doctoral degree requirements, students move to the clinical year of medical school. Students may begin their clinical year of medical school immediately after completion of doctoral (Ph.D.) requirements, regardless of the

time in the calendar year, and, 14 to 16 months later, may complete their medical school requirements. These students are exempt from the major part of the fourth year of medical school.

Prospective students submit applications through the American Medical College Application Service. Upon review of the AMCAS documents, qualified applicants are sent supplemental admission materials, including an application for the M.D./Ph.D. Program. Those invited to Richmond for interviews will spend one day in the standard interview for the School of Medicine and will spend a second day interviewing with members of the M.D./Ph.D. Steering Committee, as well as touring labs of faculty scientists.

Admission of medical students to the Ph.D. phase of training takes place formally following completion of the M-II year of M.D. training. A copy of the student file is transferred to the Office of Graduate Education and the individual is formally accepted to Ph.D. training by the VCU Graduate School.

The requirements for a combined professional school/graduate school degree in the School of Medicine are equivalent to those required of students seeking a graduate degree alone and are determined by the individual program.

For additional information, please see the program Web site at [www.vcu.edu/mdphd](http://www.vcu.edu/mdphd)

#### Combined Doctor of Medicine (M.D.) and Master of Health Administration (M.H.A.)

Students may indicate their interest in the combined program prior to matriculation or during the first three years of the M.D. program.

Advanced study in health administration and medicine is available through a dual-degree program co-sponsored by the department of Health Administration and the VCU School of Medicine. The program leads to the awarding of the Doctor of Medicine and Master of Health Administration degrees. The objective of the M.D./M.H.A. program is to provide highly motivated medical students the expertise for management and leadership competency in complex health care organizations. The joint program may be completed in five years. Applicants for this program are required to meet the admission requirements of each program. For information regarding the dual-degree program, contact the director of the program.

For the combined degree program, course work for the M.H.A. is initiated following completion of the first two or three years of the M.D. program, occupies a full academic year (fall, spring and summer) and extends into a second year, and is taken during a hiatus from the third or fourth year of the M.D. program.

Students interested in the program may contact the School of Medicine Office of Curriculum or the Director of the M.H.A. Program, Department of Health Administration (School of Allied Health Professions).

For additional information refer to the School of Medicine handbook available on the school's Web site at [www.medschool.vcu.edu](http://www.medschool.vcu.edu).

#### Curriculum

	Credits
<b>Fall I</b>	
HADM 602 Health System Organization, Financing and Performance	3
HADM 606 Health Care Managerial Accounting	3
HADM 612 Information Systems for Health Care Management	3
HADM 615 Health Care Politics and Policy	3
HADM 646 Health Care Organization and Leadership	3
HADM 682 Executive Skills I	1
<b>Spring I</b>	
HADM 607 Financial Management in Health Organizations	3
HADM 610 Health Care Management Decision Support Systems	3
HADM/ECON 624 Health Economics	3
HADM 647 Management of Health Care Organizations	3
HADM 649 Human Resources Management in Health Care	3
<b>Summer I</b>	
HADM 693 Internship in Health Administration	3

**Fall II**

No MHA course commitments; return to M.D. program

**Spring II**

HADM 611 Health Care Law and Bioethics	3
HADM 614 Health Care Marketing	3
HADM 648 Strategic Management in Health Care Organizations	3

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**Combined Doctor of Medicine (M.D.) and Master of Science (M.S.)**

Medical students seeking to expand their competency in the conduct of research may choose the basic science track in one of the master's-level programs within the School of Medicine. The track offers a research-intensive program that builds on the core of disciplinary material embedded in the medical school curriculum in the first two years of training — with additional exposure to specialized areas in basic science disciplines. The research experience leads to preparation of a report in the form of a manuscript suitable for publication. The program is designed to be completed within a period of 12-15 months.

**Addiction Studies, Master of Science (M.S.)****Admission requirements summary**

Addiction Studies, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jul 1	TOEFL for non-native speakers (see below)
<b>Special requirements:</b> Applicant's must have qualified in a related discipline for an honors degree (level 2A or 1) or a bachelor's degree from a recognized tertiary institution in the U.S. Any applicant who does not meet this criterion should have (in addition to an honors or bachelor's degree) significant professional work experience and approval of the program committee. Additionally, applicants must have a high level of proficiency in English, demonstrated by completion of a university qualification studied in the English language, or by meeting one of the following English language requirements: an IELTS score of 7.0, a TOEFL score of 600 (paper-based) or 260 (computer-based), or grade C or above in GCSE English.			

Through a collaborative program between VCU, King's College London and the University of Adelaide in Australia, students complete a program of study using distance-learning technologies to obtain a Master of Science in Addiction Studies (M.S.) degree. The program is designed to prepare students for local, national and international policy positions; prevention/treatment program management; and other leadership positions in the addictions field.

Prospective students will find application materials on the [VCU IPAS website](#). Application forms, reference letters and official university transcripts should be sent to the VCU program director, Mary Loos, Ph.D., as instructed on the website. Once accepted, students are enrolled in all three universities and have access to the resources associated with all three schools. No on-campus classroom time is required to complete the degree.

Students are required to successfully complete 36 credit hours, which can be done either full time (12 months) or part time (24 months). Six of the required credits are assigned to a final research project examining a relevant addictions-related topic. VCU, King's College London and the University of Adelaide confer degrees jointly through a single diploma.

**Student learning outcomes**

- Integrated knowledge of addiction science: The student will demonstrate an appropriate level of knowledge of the current elements of addiction science as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship including an appropriate familiarity with the research literature and the ability to evaluate and critique publication.
- Problem-solving skills: Students will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in

addiction research and practice, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems.

- Research design: Students will demonstrate the achievement of an appropriate level of competence in the ability to appraise, develop and implement research studies.
- Written communication skills: The candidate will use effective written communication skills to present information related to addiction causes, interventions, treatments and policies using appropriate vocabulary, figures, tables and citations.

**Anatomy and Neurobiology, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

Anatomy and Neurobiology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 7 given priority consideration	GRE, MCAT or DAT
<b>Special requirements:</b> MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

Advanced graduate study leading to a Doctor of Philosophy is offered in the Department of Anatomy and Neurobiology.

**Student learning outcomes**

- Problem-solving skills**  
The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems.
- General knowledge of sciences**  
The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications.
- Communication skills**  
The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations.
- Experimental design**  
The candidate should demonstrate an appropriate level of skill in the design of experimental protocols and the technical conduct of experimentation related to his or her research.
- Employment**  
The candidate will secure a position in their chosen career goal (employment in academic institutions or private laboratories).

**Curriculum**

A typical course plan follows:

	Credits
<b>Fall 1</b>	
ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research (laboratory rotations)	4
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
NEUS 609 Cellular and Molecular Neuroscience	4
<b>Spring 1</b>	
ANAT 610 Systems Neuroscience	4
ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1

ANAT 697 Directed Research (laboratory rotations)	3
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5

**Summer 1**

ANAT 697 Directed Research	6
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**Fall 2**

ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research	variable
OVRP 601 Scientific Integrity	1
Elective	

**Spring 2**

ANAT 615 Techniques in Neuroscience and Cell Biology	2
ANAT 620 Scientific Writing and Grantsmanship	2
ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research	variable
Elective	

**Summer following second year**

During the summer following the second year the student will take the required written and oral comprehensive exams. Students also register for ANAT 697 Directed Research (6 credits) and work in the research laboratory of their chosen thesis adviser.

**Written comprehensive examination**

The written exam consists of two parts. Part one is an open-book exam that is designed to: 1) assess the student's ability to integrate course material and 2) demonstrate critical thinking and evaluation of the literature in the basic health sciences related to the student's area of research. For part two, students will prepare an NIH-style grant proposal based on their research plan.

**Oral comprehensive examination**

After successful completion of both parts of the written comprehensive, the student's graduate advisory committee will administer the oral comprehensive examination, which entails an oral defense of the student's grant proposal as well as the topics covered in part one of the written comprehensive. The oral comprehensive covers: (1) course work (anatomy and other basic health sciences) related to the student's proposed research, (2) the literature cited in or related to the proposal, and (3) the hypotheses, research techniques and procedures presented in the proposal. Successful completion of the oral comprehensive exam advances the student to candidacy for the doctoral degree.

**Third academic year and beyond**

There is no expectation of the time required to complete the doctoral degree. Beginning with the fall semester of the third year in the graduate program students will devote their full time to conducting research in the laboratory of their advisers. Students also are required to register for 14 credits of ANAT 697 Directed Research, and one credit of ANAT 690 Anatomy and Neurobiology Seminar and one credit of ANAT 630 Research Presentations each semester. During the summer, students register for six credits of ANAT 697.

At the appropriate time in their research, the student will prepare a dissertation and schedule a final oral defense of the thesis. The final oral examination (defense of the dissertation) will be limited to the subject of the candidate's dissertation and related basic science.

**Electives**

Students are required to enroll in one elective, which will enhance their graduate training. Students must maintain a 3.0 overall cumulative grade point average to continue in the doctoral program. Suggested electives include:

	Credits
ANAT 617 Developmental Neurobiology	3
BIOS/STAT 543 Statistical Methods I	3
MICR 505 Immunobiology	3
MICR 607 Techniques in Molecular Biology and Genetics	2
PHIS 501 Mammalian Physiology	5
PHIS 604 Cell Physiology: From Molecules to Organisms	4
PHIS/PHTX 620 Ion Channels in Membranes	3

PHTX 536 Principles of Pharmacology and Toxicology	5
PHTX 632 Neurochemical Pharmacology	3

Students must achieve a grade of B or better in all courses, or they will be required to repeat that course.

**Anatomy and Neurobiology, Master of Science (M.S.)****Admission requirements summary**

Anatomy and Neurobiology, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Applications received prior to Dec 17 given priority consideration	GRE, MCAT or DAT
<b>Special requirements:</b> MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

Advanced graduate study leading to a Master of Science is offered in the Department of Anatomy and Neurobiology.

**Student learning outcomes**

- **Experimental design**  
The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments.
- **Communication skills**  
The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids. The candidate will also demonstrate the achievement of an appropriate level of written communication skills with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations.
- **Problem-solving skills**  
The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems.
- **General knowledge of neurobiology and biosciences**  
The candidate will demonstrate an appropriate level of knowledge of the current elements of neurobiology and the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications.
- **Employment or acceptance to advanced degree program**  
The candidate will secure a position in their chosen career goal (medical school, doctoral studies, employment in academic or private laboratories).

**Curriculum**

A typical course plan follows:

	credits
<b>Fall 1</b>	
ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research (laboratory rotations)	4
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
NEUS 609 Cellular and Molecular Neuroscience	4
<b>Spring 1</b>	
ANAT 610 Systems Neuroscience	4
ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research (laboratory rotations)	3
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5

**Summer 1**

ANAT 697 Directed Research	6
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**Fall 2**



ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research	13

**Spring 2**

ANAT 630 Research Presentations	1
ANAT 690 Anatomy and Neurobiology Seminar	1
ANAT 697 Directed Research	13

Students must pass all courses with a grade of B or better or they will be required to repeat the course. The student must maintain a 3.0 overall cumulative grade point average to continue in the master's program.

There is no expectation of the time required to complete the master's degree; usually two years of study are necessary to complete the requirements. At the appropriate time in their research, students will prepare a thesis and schedule a final oral defense of the thesis. The final oral examination (defense of the thesis) will cover the subject of the candidate's dissertation and related basic science course work.

## Biochemistry, Doctor of Philosophy (Ph.D.)

**Admission requirements summary**

Biochemistry, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Dec 17 given priority consideration	GRE, MCAT or DAT
Special requirements: MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

The Ph.D. program in biochemistry prepares students for research-oriented careers as independent scientists in academia, government and biotechnology. The core of this degree program is an original independent research project under the supervision of a faculty adviser. The Department of Biochemistry and Molecular Biology has research efforts of international stature in several areas, including cellular and molecular signaling, tumor biology, structural biology, eukaryotic molecular biology, lipid and membrane biochemistry, and molecular genetics, using state-of-the-art approaches in enzymology, genomics, proteomics and lipidomics. While emphasizing independent research in biochemistry and molecular biology and training in the responsible conduct of research, the program also provides a background of courses designed to match the needs and interests of each student. An example of a schedule of courses is shown below. Ph.D. students are expected to enroll as full-time graduate students. During the first year, students pursue research rotations, take formal course work and become familiar with current research topics through seminars, discussion groups and lectures by distinguished scientists. By the end of the first year, students choose a faculty adviser and begin dissertation research. Following completion of the research project and defense of the doctoral dissertation, graduates are equipped to participate in virtually any area of current biomedical research in the most prestigious laboratories. For more detailed information on the program, please visit [www.biochemistry.vcu.edu/education/phd/default.htm](http://www.biochemistry.vcu.edu/education/phd/default.htm).

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

**Student learning outcomes**

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations.
- Experimental design: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify and/or create and implement experimental protocols and to design and develop experiments.

- Problem-solving skills: The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems.
- General knowledge of science: The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications.

**Curriculum**

The following graduate courses are required:

BIOC 690 Biochemistry Seminar (taken each semester)  
 BIOC 690 Biochemistry Seminar (student seminar section, taken each semester during the second through fourth year in the program)  
 BIOC 691 Special Topics in Biochemistry (student journal club; taken each semester during the second through fourth year in the program)  
 BIOC 691 Special Topics in Biochemistry (critical thinking) or IBMS 630 Critical Thinking (taken in the first year)  
 IBMS 600 Laboratory Safety (taken in the first year)  
 IBMS 610 Laboratory Opportunities (taken in the first year)  
 IBMS 620 Laboratory Rotations (taken in the first year, arranged through the BSDP admissions portal)  
 IBMS 680 Proposal Preparation (taken in the first year)

The following graduate courses are recommended:

ANAT 615 Techniques in Neuroscience and Cell Biology  
 BIOC/MICR 503-504 Biochemistry, Cellular, and Molecular Biology (typically taken in the first year)  
 BIOC 601 Membranes and Lipids  
 BIOC 602 Physical Properties of Macromolecules (one to four modules; typically taken in the first year)  
 BIOC 604 Enzymology (one to three modules; typically taken in the second year)\*  
 BIOC 605 Molecular Biology (typically taken in the second year)  
 BIOC 606 Biochemical Control Processes  
 BIOC 697 Directed Research in Biochemistry (taken each semester)  
 HGEN 501/BIOL 530 Human Genetics  
 MICR 505 Immunobiology  
 MICR 605 Prokaryotic Molecular Genetics  
 MICR 607 Techniques in Molecular Biology and Genetics (typically taken in the second year)  
 MICR/BNFO 653 Advanced Molecular Genetics: Bioinformatics  
 OVPR 601 Scientific Integrity (typically taken in the second year)  
 PHTX 691 Special Topics in Pharmacology [research design analysis (statistics)]

Students select courses from this panel, with guidance from their advisers and committees. While there is no minimum credit requirement for graduation, Ph.D. students must enroll full time (minimum 9 credits) to be eligible for a stipend. Some graduate courses listed above may be taken after the comprehensive examination. Most of this course work should be taken during the first two years of the program. Students are encouraged to take additional courses that relate to their personal research project.

A typical course plan for the full-time student is described below.

	Credits
<b>First fall semester</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (critical scientific thinking)	1
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations	2
<b>First spring semester</b>	
ANAT 691 Special Topics in Anatomy (scientific writing)	2



BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
BIOC 506 Experimental Biochemistry (laboratory rotation)	2
BIOC 602 Physical Properties of Macromolecules	1-4
Students will select modules from 602 and 604 to get four credits (at least one from each)	
BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (critical scientific thinking)	1

**Second fall semester**

BIOC 604 Enzymology	1-3
Students will select modules from 602 and 604 to get four credits (at least one from each)	
BIOC 605 Molecular Biology	3
BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (student seminar)	1
BIOC 697 Directed Research in Biochemistry	variable
MICR 607 Techniques in Molecular Biology and Genetics	2
OVPR 601 Scientific Integrity	1

**Second spring semester**

BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (student seminar)	1
BIOC 697 Directed Research in Biochemistry	variable

**Biochemistry, Master of Science (M.S.)****Admission requirements summary**

Biochemistry, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	None. Applications accepted through June for admission the following fall. Priority given to early applicants.	GRE, MCAT or DAT
Special requirements:			
MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

The M.S. program in biochemistry prepares students for research-oriented careers in academia, government and biotechnology. The core of this degree program is an original independent research project under the supervision of a faculty adviser. The Department of Biochemistry and Molecular Biology has research efforts of international stature in several areas, including cellular and molecular signaling, tumor biology, structural biology, eukaryotic molecular biology, lipid and membrane biochemistry, and molecular genetics, using state-of-the-art approaches in enzymology, genomics, proteomics and lipidomics. While emphasizing independent research in biochemistry and molecular biology and training in the responsible conduct of research, the program also provides a background of courses designed to match the needs and interests of each student. An example of a schedule of courses is shown below. During the first year, students pursue research rotations, take formal course work and become familiar with current research topics through seminars, discussion groups and lectures by distinguished scientists. By the end of the first year, students choose a faculty adviser and begin thesis research. Following completion of the research project and defense of the masters thesis, graduates are equipped to participate in virtually any area of current biomedical research in the most prestigious laboratories. For more detailed information on the program, please visit [www.biochemistry.vcu.edu/education/masters/default.htm](http://www.biochemistry.vcu.edu/education/masters/default.htm).

**Student learning outcomes**

- Experimental design: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or

create and implement experimental protocols and to design and develop experiments.

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations.
- General knowledge of science: The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications.
- Problem-solving skills: The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems.

**Curriculum**

Master's students in biochemistry take courses designed for graduate students with an emphasis on research design and experimentation. Students must amass at least 24 credit hours (exclusive of research credits).

The following courses are required for the master's degree and constitute the core courses of the curriculum:

BIOC/MICR 503-504 Biochemistry, Cellular, and Molecular Biology (typically taken in first year)  
 BIOC 505 Experimental Biochemistry (research rotation; typically taken in first year)  
 BIOC 602 Physical Properties of Macromolecules (one to four modules; typically taken in first year)\*  
 BIOC 604 Enzymology (one to three modules; typically taken in second year)\*  
 BIOC 690 Biochemistry Seminar (taken each semester)  
 BIOC 691 Special Topics in Biochemistry (student seminar; taken each semester)  
 BIOC 691 Special Topics in Biochemistry (critical thinking; typically taken in first year)  
 BIOC 697 Directed Research in Biochemistry (taken each semester)  
 IBMS 600 Laboratory Safety (typically taken in first year)  
 OVPR 601 Scientific Integrity (typically taken in second year)

\* Students will select modules from 602 and 604 to get 4 credits (at least 1 credit from each)

**Training in the responsible conduct of research**

- OVPR 601 Scientific Integrity, 1 credit, fall semester
- Collaborative Investigator Training Initiative: This is an online course that provides training in human subjects research. The course must be completed during the fall semester of the second year. Students should submit the "Certificate of Completion" before starting the spring semester of the second year. Use the following link to access the course:  
[www.research.vcu.edu/irb/education.htm](http://www.research.vcu.edu/irb/education.htm).
- Research Training. Org: This is an online course that provides training in animal subjects research. The course must be completed during the fall semester of the second year. Students should submit the "Certificate of Completion" before starting the spring semester of the second year. Use the following link to access the course:  
[www.research.vcu.edu/iacuc/lata.htm](http://www.research.vcu.edu/iacuc/lata.htm).

A typical course plan for the full-time student is described below.

	Credits
<b>First fall semester</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOC 505 Experimental Biochemistry (laboratory rotation)	2

BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (critical scientific thinking)	1
IBMS 600 Laboratory Safety	1

**First spring semester**

ANAT 691 Special Topics in Anatomy (scientific writing)	2
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
BIOC 506 Experimental Biochemistry (laboratory rotation)	2
BIOC 602 Physical Properties of Macromolecules	1-4
Students will select modules from 602 and 604 to get four credits (at least one from each)	
BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (critical scientific thinking)	1

**Second fall semester**

BIOC 604 Enzymology	1-3
Students will select modules from 602 and 604 to get four credits (at least one from each)	
BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (student seminar)	1
BIOC 697 Directed Research in Biochemistry	variable
MICR 607 Techniques in Molecular Biology and Genetics	2
OVPR 601 Scientific Integrity	1

**Second spring semester**

BIOC 690 Biochemistry Seminar	1
BIOC 691 Special Topics in Biochemistry (student seminar)	1
BIOC 697 Directed Research in Biochemistry	variable

M.S. students register for BIOC 690 and BIOC 691 for the duration of their tenure in the program. The core set of courses can be supplemented with elective courses offered by the Department of Biochemistry and Molecular Biology or other departments. Students are encouraged to take additional courses that relate to their personal projects. Electives may include courses in techniques in molecular biology and genetics, bioinformatics, statistics, immunology, microbiology, molecular genetics, mammalian physiology, and advanced organic and physical chemistry, among others.

**Optional courses**

ANAT 615 Techniques in Neuroscience and Cell Biology	2
BIOC 601 Membranes and Lipids	3
BIOC 606 Biochemical Control Processes	3
HGEN 501/BIOL 530 Human Genetics	3
MICR 505 Immunobiology	3
MICR 605 Prokaryotic Molecular Genetics	3
MICR 653/BNFO 653 Advanced Molecular Genetics: Bioinformatics	3
PHTX 691 Special Topics in Pharmacology [research design analysis (A. Lichtman – statistics)]	2

**Biostatistics, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

<b>Biostatistics, Doctor of Philosophy (Ph.D.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 15 given priority consideration	GRE
<b>Special requirements:</b> Applicants must complete the verbal, quantitative and analytical writing sections of the Graduate Record Exam. The following mathematics courses or their equivalents are required for admission: MATH 307 Multivariate Calculus, MATH 309 Introduction to Probability Theory, MATH 310 Linear Algebra, STAT 213 Introductory Statistics.			

The Department of Biostatistics at Virginia Commonwealth University offers M.S. and Ph.D. degrees in Biostatistics. It is part of the School of Medicine on the university's MCV Campus.

While committed to excellence in biostatistical research and in its graduate program, the department also collaborates in biomedical research with other departments on the MCV Campus. Its faculty members are nationally recognized for their biostatistical work in the areas of clinical trials, pharmacology, toxicology and genomics. The department continues to emphasize scholarship and graduate education, and its graduates are in demand for jobs throughout the country in government, academia and the private sector.

The program is committed to diversifying the racial and ethnic composition of people who become biostatisticians. Individuals from all racial or cultural backgrounds are encouraged to apply.

**Student learning outcomes**

- **Experimental design:** The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- **Integrated knowledge of mathematics and bioscience:** The candidate will demonstrate an appropriate level of knowledge of the current elements of mathematics as related to bioscience and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- **Oral communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- **Problem-solving skills:** The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- **Written communication skills:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.

**Ph.D. in Biostatistics requirements**

Ph.D. students will complete at least 58 semester credit hours of course work worth three or more credits. In addition to the first-year sequence, each student is required to take BIOS 615, BIOS 616, BIOS 625, BIOS 631, BIOS 647 and OVPR 601; two 600-level BIOS/STAT courses from the list below; STAT 503 and one other 600-level BIOS/STAT or MATH course (if STAT 503 has been taken, then two 600-level BIOS/STAT or MATH courses); and one graduate-level non-BIOS/STAT/MATH course. Full-time Ph.D. students must take eight semesters of BIOS 516 Biostatistical Consulting and BIOS 690 Biostatistical Research Seminar. In addition, students will participate in the Student Summer Research Program and present at the Biostatistics Student Research Day each September.

First-year sequence	Credits
BIOS/STAT 513 Mathematical Statistics I	3
BIOS/STAT 514 Mathematical Statistics II	3
BIOS 524 Biostatistical Computing	3
BIOS 546 Theory of Linear Models	3
BIOS 553 Linear Regression	3

BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3

**Advanced years (required)**

BIOS 615 Advanced Inference	4
BIOS 616 Advanced Inference	4
BIOS 625 Categorical Data Analysis and Generalized Linear Models	4
BIOS 631 Multivariate Analysis I	4
BIOS 647 Survival Analysis	3
OVPR 601 Scientific integrity	1

**Choose two of the BIOS courses below**

BIOS 567 Statistical Methods for High-throughput Genomic Data I	3
BIOS 632 Multivariate Analysis II	3
BIOS 638 Statistical Design and Analysis in Toxicology	3
BIOS 639 Statistical Design and Analysis in Toxicology	3
BIOS 667 Statistical Learning and Data Mining	3
BIOS 671 Nonlinear Models	3
BIOS 688 Applied Bayesian Biostatistics	3
BIOS 691 Special Topics in Biostatistics (Choose from topics of statistical genetics, microarray II or hierarchical linear models)	3

**Additional course requirements**

Two other 600-level BIOS/STAT, STAT 503 or MATH courses with approval	6
One other non-BIOS/STAT or MATH course with approval	3

**Ph.D. requirements – genomic biostatistics concentration**

Ph.D. students will complete at least 58 semester credit hours of course work worth three or more credits. In addition to the first year sequence, each student is required to take BIOS 567, BIOS 615, BIOS 616, BIOS 625, BIOS 632, BIOS 647, BIOS 668; a relevant course pertaining to bioinformatics or molecular biology (BIOL 540 suggested); OVPR 601; one of BIOS 667 or BIOS 691 (with a topic of statistical genetics or systems biology); and one other 600-level BIOS/STAT course. Full-time Ph.D. students must take eight semesters of BIOS 516 Biostatistical Consulting and BIOS 690 Biostatistical Research Seminar. In addition, students will participate in the Student Summer Research Program for two summers and present at the Biostatistics Student Research Day each September.

First-year sequence	Credits
BIOS/STAT 513 Mathematical Statistics I	3
BIOS/STAT 514 Mathematical Statistics II	3
BIOS 524 Biostatistical Computing	3
BIOS 546 Theory of Linear Models	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3

**Advanced years (required)**

BIOL/BNFO 540 Fundamentals of Molecular Genetics (or other relevant course)	3
BIOS 567 Statistical Methods for High-throughput Genomic Data I	3
BIOS 615 Advanced Inference	4
BIOS 616 Advanced Inference	4
BIOS 625 Categorical Data Analysis and Generalized Linear Models	4
BIOS 632 Multivariate Analysis II	4
BIOS 647 Survival Analysis	3
BIOS 668 Statistical Methods for High-throughput Genomic Data II (microarray II)	3
OVPR 601 Scientific integrity	1

**Choose one of the BIOS courses below**

BIOS 667 Statistical Learning and Data Mining	3
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BIOS 691 Special Topics in Biostatistics (Choose from topics of statistical genetics or systems biology)	3
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**Additional course requirements**

One other 600-level BIOS/STAT course with approval	3
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**Qualifying exam**

Students pursuing the Ph.D. degree must pass a qualifying examination administered at the end of May or the beginning of June after completion of the first-year courses. The examination is an in-class, closed-book exam given over a period of two days and covers material from the following first-year courses:

**Part A (applied):** covers BIOS 553, 554, 571 and 572.

**Part B (theoretical):** covers BIOS 513, 514 and 546.

Each part of the exam is graded with a pass/fail. A student who fails Part A or Part B of the exam at the Ph.D. level must retake that part of the qualifying exam. Such a student may petition the Examination Committee of the Department of Biostatistics for a winter administration of the qualifying exam.

**Comprehensive exam**

Students pursuing the Ph.D. degree who have passed the qualifying exam must pass a comprehensive exam consisting of two parts.

**Part A: written comprehensive exam**

This exam is an in-class, closed-book exam administered in June after completion of the advanced years courses (usually at the end of the third year for full-time students). The exam covers material from the following courses: BIOS 615-616 Advanced Inference, BIOS 625 Analysis of Categorical Data, BIOS 631 Multivariate Analysis I and BIOS 674 Survival Analysis.

**For students pursuing a genomics concentration**, the exam covers material from the following courses: BIOS 615-616 Advanced Inference, BIOS 625 Categorical Data Analysis and Generalized Linear Models, BIOS 632 Multivariate Analysis II, BIOS 674 Survival Analysis and BIOS 691 Special Topics in Biostatistics with a topic of microarray II.

**Part B: data/analytic/consulting oral exam**

This exam tests for problem-solving abilities and draws from material presented in BIOS 516 and advanced required and elective courses.

**For students pursuing a genomics concentration**, this exam tests for problem-solving abilities and is expected to pertain to gene, protein or microRNA expression, metabolite, methylation, genetic or other data arising from molecular assays.

Students have two weeks to complete a statistical analysis of a data set and submit a written report describing the analysis. The student will present an oral report defending the analysis a week later. The exam will be written and evaluated by the student's dissertation committee.

The data/analytic/consulting oral exam cannot be taken until the student has passed the written comprehensive exam.

**Dissertation**

A comprehensive dissertation reporting the results of original research is required for the Ph.D. degree.

**For students pursuing a genomics concentration**, a comprehensive dissertation reporting the results of original research related to genomics topics is required. It is expected that the dissertation will make use of some high-throughput genomic technology as an application for the methodological development.

**Final examination**

All Ph.D. students must defend their dissertations at a final oral examination. A public presentation will precede a Ph.D. defense closed to all but the student's committee. Questions are restricted to the topic of the dissertation for the Ph.D. student.

**Biostatistics, Master of Science (M.S.)**

**Admission requirements summary**

<b>Biostatistics, Master of Science (M.S.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Applications received prior to Jan 15 given priority consideration	GRE, MCAT or DAT
Special requirements: Program requirements and other information are found at <a href="http://www.biostatistics.vcu.edu">www.biostatistics.vcu.edu</a> .			

The Department of Biostatistics at Virginia Commonwealth University offers M.S. and Ph.D. degrees in Biostatistics. It is part of the School of Medicine on the university's MCV Campus.

While committed to excellence in biostatistical research and in its graduate program, the department also collaborates in biomedical research with other departments on the MCV Campus. Its faculty members are nationally recognized for their biostatistical work in the areas of clinical trials, pharmacology, toxicology and genomics. The department continues to emphasize scholarship and graduate education, and its graduates are in demand for jobs throughout the country in government, academia and the private sector.

The program is committed to diversifying the racial and ethnic composition of people who become biostatisticians. Individuals from all racial or cultural backgrounds are encouraged to apply.

**Student learning outcomes**

- **Experimental design:** The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- **Integrated knowledge of mathematics and bioscience:** The candidate will demonstrate an appropriate level of knowledge of the current elements of mathematics as related to bioscience and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- **Oral communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- **Problem-solving skills:** The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- **Written communication skills:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.

**M.S. in Biostatistics requirements**

Master's students will complete at least 33 semester credit hours of course work worth three or more credits. In addition to the first-year sequence, each student is required to take one of BIOS 615, BIOS 616, BIOS 625, BIOS 631 or BIOS 647; one other 600-level BIOS course; and one BIOS or STAT course. Full-time M.S. students must take four semesters of BIOS 516 Biostatistical Consulting and BIOS 690 Biostatistical Research Seminar. In addition, students will participate in the Student Summer Research Program and present at the Biostatistics Student Research Day during the summer/fall after the first year.

First-year sequence	Credits
BIOS/STAT 513 Mathematical Statistics I	3
BIOS/STAT 514 Mathematical Statistics II	3
BIOS 524 Biostatistical Computing	3
BIOS 546 Theory of Linear Models	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3

Choose one of:

BIOS 615 Advanced Inference	4
BIOS 616 Advanced Inference	4
BIOS 625 Categorical Data Analysis and Generalized Linear Models	4
BIOS 631 Multivariate Analysis I	4
BIOS 647 Survival Analysis	3

**Choose one additional BIOS, STAT or MATH course**

Suggested courses	
BIOS 567 Statistical Methods for High-throughput Genomic Data I	3
BIOS 632 Multivariate Analysis II	3
BIOS 638 Statistical Design and Analysis in Toxicology	3
BIOS 639 Statistical Design and Analysis in Toxicology	3
BIOS 667 Statistical Learning and Data Mining	3
BIOS 688 Applied Bayesian Biostatistics	3
STAT 503 Introduction to Stochastic Processes	3
STAT 613 Stochastic Processes	3
STAT 614 Stochastic Processes	3
STAT 625 Applied Multivariate Analysis	3
STAT/BIOS 650 Design and Analysis of Response Surface Experiments	3

**M.S. requirements – genomic biostatistics concentration**

Master's students will complete at least 33 semester credit hours of course work worth three or more credits. In addition to the first-year sequence, each student is required to take BIOS 567; a relevant course pertaining to bioinformatics or molecular biology (BIOL 540 suggested); and one from among BIOS 632, BIOS 667, 668 and BIOS 691 (with a topic of statistical genetics or systems biology). Full-time M.S. students must take four semesters of BIOS 516 Biostatistical Consulting and BIOS 690 Biostatistical Research Seminar. In addition, students will participate in the Student Summer Research Program for two summers and present at the Biostatistics Student Research Day each September.

First-year sequence	Credits
BIOS/STAT 513 Mathematical Statistics I	3
BIOS/STAT 514 Mathematical Statistics II	3
BIOS 524 Biostatistical Computing	3
BIOS 546 Theory of Linear Models	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3

**Second-year sequence (required)**

BIOL/BNFO 540 Fundamentals of Molecular Genetics (or equivalent course)	3
BIOS 567 Statistical Methods for High-throughput Genomic Data I	3

**Choose one of:**

BIOS 632 Multivariate Analysis II	4
BIOS 667 Statistical Learning and Data Mining	3
BIOS 668 Statistical Methods for High-throughput Genomic Data II	3
BIOS 691 Special Topics in Biostatistics (systems biology, microarray II or statistical genetics)	3

**M.S. requirements – clinical research and biostatistics concentration**

Master's students with a concentration in clinical research and biostatistics will complete at least 34 semester credit hours. The curriculum includes 17 credit hours of core course work, 12 credit hours of electives and at least five credits hours of directed independent research. A research advisory committee must be formed to direct the student's research project.

First-year sequence	Credits
BIOS 516 Biostatistical Consulting	3
BIOS 531 Clinical Epidemiology	3
BIOS/STAT 543 Statistical Methods I	3
BIOS/STAT 544 Statistical Methods II	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3

**Second-year sequence**

OVPR 601	1
Approved electives	12

**Qualifying exam**

Students pursuing the M.S. degree must pass a qualifying examination administered at the end of May or the beginning of June after completion of the first-year courses. The examination is an in-class, closed-book exam given over a period of two days and covers material from the following first-year courses:

**Part A (applied):** covers BIOS 553, 554, 571 and 572.

**Part B (theoretical):** covers BIOS 513, 514 and 546.

Each part of the exam is graded with a pass/fail. A student who fails Part A or Part B of the exam at the M.S. level must retake that part of the qualifying exam. Such a student may petition the Examination Committee of the Department of Biostatistics for a winter administration of the qualifying exam.

**Thesis**

For the M.S. degree, students must write a thesis that reports the results of data analysis, or a review or survey. An original research topic is not required.

**For students pursuing a genomic biostatistics concentration,** a thesis reporting the results of original research related to genomics biostatistics is required. It is expected that the dissertation will make use of some high-throughput genomic technology as an application.

**Final examination**

All M.S. students must defend their theses at a final oral examination. While questions are restricted to the topic of the dissertation for the Ph.D. student, no such restriction applies for the thesis defense for master's students.

## Epidemiology, Doctor of Philosophy (Ph.D.)

**Admission requirements summary**

Epidemiology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Application strongly encouraged by Jan 1	GRE
Special requirements: M.P.H. or equivalent M.S. degree			
Please see program admission requirements.			

The Ph.D. program in epidemiology, the only one of its kind in Virginia, prepares students for research-oriented careers in the areas of clinical and population-based research. The program includes a foundation of 41 credits of epidemiology and biostatistics course work whereby students learn methods for studying disease etiology and prevention in populations. Students then implement such methods in an original research project under the supervision of an experienced faculty adviser.

Students complete 15 credits of core courses; four credits (semesters) of journal club; 12 credits of methodological electives selected with an adviser and tailored to the student's specific research needs; nine credits in a related substantive area; and a minimum of one credit of course work to provide practical research skills.

For additional information, see [www.epidemiology.vcu.edu/education/phd](http://www.epidemiology.vcu.edu/education/phd).

**Student learning outcomes**

- Integrated knowledge of epidemiology
  - The candidate will demonstrate an appropriate level of knowledge of the current elements of epidemiology as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- Problem-solving skills
  - The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in epidemiological research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by the rubric.

- Research design
  - The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify and / or create and implement research protocols and to design and develop epidemiological research as measured by rubric.
- Oral communication skills
  - The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- Written communication skills
  - The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations as measured by rubric.

**Sample curriculum**

	credits
<b>Fall 1</b>	
BIOS 553 Linear Regression	3
EPID 650 Epidemiologic Methods for Research	3
EPID 690 Journal Club	1
Substantive area or methods elective	3
<b>Total</b>	10
<b>Spring 1</b>	
BIOS 554 Analysis of Variance	3
EPID 651 Intermediate Epidemiologic Methods for Research	3
EPID 690 Journal Club	1
Substantive area or methods elective	3
<b>Total</b>	10
<b>Summer 1</b>	
EPID 697 Directed Research in Epidemiology	variable
<b>Fall 2</b>	
EPID 690 Journal Club	1
OVPR 601 Scientific Inquiry (or adviser-approved substitute)	1 required (up to 3 if substitute course selected)
At least one methods elective and substantive area or methods electives	9
<b>Total</b>	11
<b>Spring 2</b>	
EPID 652 Advanced Epidemiologic Methods and Data Analysis	3
EPID 690 Journal Club	1
Substantive area or methods electives	6
<b>Total</b>	10
<b>Summer 2</b>	
EPID 697 Directed Research in Epidemiology	variable

**Program admission requirements**

**Prior degree:** Master's degree in public health (M.P.H.) or M.S. in related field (e.g., biostatistics, sociology, biology, mathematics) with a minimum GPA of 3.0

**GRE:** Current GRE test results with minimum scores of 600 quantitative, 600 verbal and 5.0 analytical writing

**Personal statement:** A personal statement that indicates the applicant's reason for pursuing a doctoral degree in epidemiology, the particular area of focus or study,



the departmental faculty adviser with whom the student would prefer to work and career goals of the applicant upon graduation

## Genetic Counseling, Master of Science (M.S.)

### Admission requirements summary

Genetic Counseling, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Applications received prior to Feb 2 given priority consideration	GRE

The Master of Science in Genetic Counseling program is accredited by the American Board of Genetic Counseling. The master's degree requires four semesters of study for students entering with a bachelor's degree, and it must be completed within five years. The student working toward the Master of Science has an integrated and progressively complex classroom and supervised clinical experience. The program requires an original research project under the supervision of a faculty adviser.

The straddling of the student and professional roles is a lifelong process in the changing field of human genetics and genetic counseling. Graduates of this program will be contributing members of the clinical genetics team of counselors, physicians and basic scientists.

### Student learning outcomes

- **Competency in practice:** The candidate should demonstrate development of competency in the responsible practice of genetic counseling. This will be assessed in the clinical setting by certified genetic counselors and medical geneticists. The assessment is based upon the clinical competencies established by the American Board of Genetic Counseling. This competency is documented with written and oral evaluations at the completion of each of the seven clinical rotations by the rotation supervisor.
- **General knowledge of sciences:** The candidate should demonstrate a general knowledge of the elements of the sciences as related to genetic molecular/cellular bioscience and a detailed knowledge of his or her area of research, including an appropriate familiarity with the research literature. The student is evaluated by academic performance, face-to-face and written evaluation of clinical performance in multiple rotations by multiple supervisors, and annual written and oral exams.
- **Communication skills:** The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired. This is achieved by evaluations of clinical rotations both written and verbal that are based on the competencies established by the American Board of Genetic Counseling and the scope of practice as set forth by the National Society of Genetic Counselors.

### Admission requirements

Applicants should have successfully completed undergraduate training and hold a baccalaureate degree. Training in chemistry through completion of course work in biochemistry is required. Admissions to the program are generally drawn from applicants with an undergraduate grade-point average minimum of 3.0 (on a 4.0 scale or equivalent), a performance on the Graduate Record Examination above a combined score of 1000 (V+Q) and a performance above a score of 3.5 on the analytical section. Applicants holding an undergraduate degree from foreign institutions must display an acceptable level of English proficiency by achieving a score of 250 on the computer-based TOEFL examination or 600 on the written version.

### Curriculum

Sample typical course plan for the full-time student

	Credits
<b>Fall 1</b>	
CLED 601 Theories of Counseling	3
HGEN 501/BIOL 530 Human Genetics	3
HGEN 525 Practice of Genetic Counseling	3

HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (classic papers)	1
IDDS 691 Special Topics in Developmental Disabilities (leadership)	2
OVPR 601 Scientific Integrity	1
<b>Total</b>	<b>14</b>

### Spring 1

HGEN 502 Advanced Human Genetics	3
HGEN 526 Practice of Genetic Counseling	3
HGEN 600 Clinical Genetics (rotation)	3
HGEN 690 Genetics Research Seminar	1
SLWK 609 Foundations of Research in Social Work Practice	3
Elective	3
<b>Total</b>	<b>16</b>

### Summer

HGEN 605 Experimental Methods in Human Genetics	3
HGEN 697 Directed Research in Genetics (rotation)	1
<b>Total</b>	<b>4</b>

### Fall 2

HGEN 527 Medical Genetics	3
HGEN 600 Clinical Genetics (rotation)	3
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	3
Elective	3
<b>Total</b>	<b>13</b>

### Spring 2

ANAT 691 Special Topics in Anatomy (embryology)	2
HGEN 528 Medical Genetics	3
HGEN 600 Clinical Genetics (rotation)	3
HGEN 622 Cancer Genetic Counseling	3
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	3
<b>Total</b>	<b>15</b>

For additional information on the program and required prerequisites, please visit [www.gen.vcu.edu](http://www.gen.vcu.edu).

## Dual-degree Master of Science in Genetic Counseling (M.S.) and Doctor of Philosophy in Human Genetics (Ph.D.)

Human Genetics, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications received prior to Dec 17 given priority consideration	GRE
<b>Special requirements:</b> International applicants must score 100 or greater on the TOEFL.			

Genetic Counseling, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Applications received prior to Feb 2 given priority consideration	GRE

The Department of Human and Molecular Genetics offers training that combines preparation for a career as a genetic counselor with research-based doctoral training in a coordinated program that integrates the complementary aspects of these two degree categories. In order to be admitted to this dual-degree program, an applicant must be accepted into both the M.S. and Ph.D. programs.

Applications for the Ph.D. program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

The Master of Science in Genetic Counseling program is accredited by the American Board of Genetic Counseling. The master's degree requires four semesters of study for students entering with a bachelor's degree, and it must be completed within five years. The student working toward the Master of Science has an integrated and progressively complex classroom and supervised clinical experience. The program requires an original research project under the supervision of a faculty adviser. In this dual degree program, clinical exposure/experience will begin in the third year.

The straddling of the student and professional roles is a lifelong process in the changing field of human genetics and genetic counseling. Graduates of this program will be contributing members of the clinical genetics team of counselors, physicians and basic scientists.

### Healthcare Policy and Research, Doctor of Philosophy (Ph.D.)

**Sabik, Dr. Lindsay**  
Graduate Program Director

For inquiries contact:

**Grant, Kate**  
Program Coordinator  
[kagrnt@vcu.edu](mailto:kagrnt@vcu.edu)  
(804) 828-5329

### Admission requirements summary

Healthcare Policy and Research, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications by Jan 15 strongly encouraged	GRE
Special requirements: Please see program admission requirements below.			

The Ph.D. program in Healthcare Policy and Research trains students to use economic and statistical frameworks and methods to address health policy issues. With an interdisciplinary and integrated curriculum, the program is designed to prepare individuals for academic careers or senior research positions in government or the private sector. The program requires 38 credits of course work in methodological and policy training plus a minimum of 12 credits of electives and a minimum of nine credits of dissertation research.

#### Student learning outcomes

- **Knowledge of the development and implementation of health policy:**  
Students will demonstrate an appropriate level of knowledge of the current elements of health care policy and economics as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications and theoretical and conceptual models, as measured by rubric.
- **Critical thinking:**  
Students will demonstrate an appropriate level of ability to interpret information relevant to health policy and health services research, to connect theoretical frameworks to study design and evidence, to draw reasonable conclusions, and to generate and evaluate alternate explanations, as measured by rubric.
- **Specialized knowledge:**  
Students will demonstrate knowledge of the issues, research literature, conceptual frameworks and research tools in one or more content domains within the field of health policy and health services research, as measured by rubric.

- **Study design and implementation:**  
Students will demonstrate the ability to design and conduct original health services and health policy research that draws from economic theory; from the initial conception of an idea to research question development, study design, data collection and selection, as measured by rubric.
- **Quantitative skills:**  
Application of appropriate analytic methods and interpretation of results, as measured by rubric.
- **Oral communication skills:**  
Students will demonstrate the achievement of an appropriate level of skill in the oral communication of health care policy subject matter with respect to content, organization, logical flow, presentation, use of language and incorporation of visual aids, to both technical and lay audiences, as measured by rubric.
- **Written communication skills:**  
Students will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling, vocabulary and use of figures, tables and citations to effectively present health services research and health care policy information. Translate research findings into publication quality manuscripts, as measured by rubric.

#### Sample curriculum

The sample curriculum provides one example of how the course requirements are met during the first two years. Additional course options are available where indicated.

	Credits
<b>Fall 1</b>	
ECON 501 Introduction to Econometrics*	3
HCPR 699 Departmental Seminar	1
HCPR 701 Health Services Research and Policy I	3
OVPR 601 Scientific Integrity	1
Elective	3
<b>Semester total</b>	<b>11</b>
<b>Spring 1</b>	
ECON 612 Econometrics	3
HCPR 699 Departmental Seminar	1
HCPR 702 Health Services Research and Policy II	3
HCPR 703 Health Economics: Theory and Principles	3
Elective	3
<b>Semester total</b>	<b>13</b>
<b>Fall 2</b>	
ECON 642 Panel and Nonlinear Methods in Econometrics*	3
EPID 650 Epidemiologic Methods for Research	3
HCPR 699 Departmental Seminar	1
HCPR 732 Research Design and Proposal Preparation	3
Elective	3
<b>Semester total</b>	<b>13</b>
<b>Spring 2</b>	
HADM 763 Health Program Evaluation*	3
HCPR 689 Applied Research in Health Policy and Health Services	3
HCPR 699 Departmental Seminar	1
HCPR 733 Statistical Methods in Analysis and Healthcare Research	3
Elective	3
<b>Semester total</b>	<b>13</b>
<b>Years 3 and 4</b>	
HCPR 899 Directed Research	3/6
HCPR 899 Directed Research	3/6
<b>Two-year total</b>	<b>9</b>
<b>Total</b>	<b>59</b>

\* Other course choices may be substituted.

A cumulative GPA of 3.0 must be maintained. Students must receive a minimum grade of B for all required courses. A student who receives a grade of C in a required course shall repeat the course. A second grade of C in a required course shall result in dismissal from the program. At the discretion of the HCPR Doctoral Committee, a student who is retaking a required course may still be eligible to take the comprehensive examination and to start the dissertation prior to repeating the course.

At the end of the second year of required course work, students will take a written comprehensive examination designed to evaluate the student's ability to: 1) integrate course material; 2) demonstrate critical thinking and evaluation of the literature in healthcare policy and research; and 3) demonstrate quantitative analysis skills.

After passing the written comprehensive examination, the student will schedule the proposal defense within 12 months. Following successful defense of the proposal, the student will prepare three manuscripts of publishable quality that will comprise the body of the dissertation and will orally defend the dissertation. It is anticipated that students will complete the program in four to five years. All requirements for the Ph.D. degree must be completed within six years from the date of admission to the degree program. Extensions may be approved in extenuating circumstances.

For additional information, see [www.healthpolicy.vcu.edu](http://www.healthpolicy.vcu.edu).

#### Program admission requirements

1. College-level course in calculus with a minimum grade of B.
2. Graduation from an accredited university or its equivalent, with a master's degree in a related discipline (e.g., economics, public health, public policy, health administration, public administration). Applicants must have completed relevant course work (including microeconomics and introductory statistics) or have professional experience in a health-related field (two years minimum) that provides an appropriate background for graduate level study in healthcare policy and research.
3. Graduate Record Exam within the past five years with minimum scores equivalent to 500/153 verbal, 600/148 quantitative. Analytic writing scores of 4.5 preferred. A writing sample may be requested.
4. Applicants from countries where English is not the primary and official national language must submit official Test of English as a Foreign Language scores. A minimum TOEFL score of 550 on the paper-based test or the equivalent on the computer-based or Internet-based test is required. The Doctoral Committee may require that students complete and pass VCU ESL course prior to matriculation, if necessary.
5. Applicants who hold an international degree will have their qualifications reviewed by the credentials evaluator of the VCU Global Education Office's credentials evaluator.
6. Three letters of recommendation from individuals who are in a position to judge the applicant's ability to engage in interdisciplinary graduate study in healthcare policy and research are required. At least one recommendation must be from an individual who can comment on the applicant's academic qualifications (e.g., former instructor or adviser).
7. A written statement of professional intent that includes the proposed area of research interest.
8. A curriculum vitae or resume.
9. A recent writing sample, such as a first author, peer-reviewed publication; a master's thesis; a book chapter; a policy brief or report; or a graduate course paper. An undergraduate course paper may be substituted if none of the above is available.
10. Prospective students must be available to interview either in person or teleconference via technology such as Skype.

To apply please visit [www.graduate.vcu.edu/admission/prospective/apply.html](http://www.graduate.vcu.edu/admission/prospective/apply.html).

### Human Genetics, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Human Genetics, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications received prior to Dec 17 given priority consideration	GRE
<b>Special requirements:</b>			
International applicants must score 100 or greater on the TOEFL.			
MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs, but not for dual degree academic programs.			

The Department of Human and Molecular Genetics offers a comprehensive program in graduate study leading to a Doctor of Philosophy in Human Genetics. The program includes the completion of an original research project under the supervision of a faculty adviser and a background/foundation of courses that prepare students for research-oriented careers in the rapidly expanding field of human genetics. Major areas of study available to Ph.D. students in the program include clinical and molecular cytogenetics, molecular genetics, developmental genetics, cancer genetics, behavior genetics, population and quantitative genetics, genetic epidemiology, clinical genetics, and genetic counseling. Once core course work requirements have been completed, the students course plan is tailored to meet individual needs with regard to the area of research focus. A track in [genetic epidemiology](#) is available for those planning a career in this area. For more detailed information on the program please visit [www.gen.vcu.edu/phd](http://www.gen.vcu.edu/phd).

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

#### Student learning outcomes

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations as measured by rubric.
- Experimental design: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- Problem-solving skills: The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in research in human and molecular genetics, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- Integrated knowledge of human and molecular genetics: The candidate will demonstrate an appropriate level of knowledge of the current elements of human and molecular genetics as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.

#### Curriculum

Typical course plan for the full-time student

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOS/STAT 543 Statistical Methods I	3
HGEN 501/BIOL 530 Human Genetics	3
HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (classic papers in human genetics)	1
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations	2
<b>Total</b>	<b>16.5</b>
<b>Spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
HGEN 502 Advanced Human Genetics	3
HGEN 606 Introduction to Clinical Genetics	1
HGEN 610 Current Literature in Human Molecular Genetics	1

HGEN 690 Genetics Research Seminar	1
IBMS 620 Laboratory Rotations (two sections)	4
<b>Total</b>	<b>15</b>

**Summer 1**

HGEN 600 Clinical Genetics (optional)	3
HGEN 697 Directed Research in Genetics	3-6
<b>Total</b>	<b>6</b>

**Fall 2**

HGEN 610 Current Literature in Human Molecular Genetics	1
HGEN 614 Pathogenesis of Human Genetic Disease	3
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	3
OVPR 601 Scientific Integrity	1
Electives	6
<b>Total</b>	<b>15</b>

**Spring 2**

HGEN 610 Current Literature in Human Molecular Genetics	1
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	3-13
IBMS 691 Special Topics in Interdisciplinary Biomedical Sciences (proposal writing)	0.5-4
Elective	0-6
<b>Total</b>	<b>15</b>

All subsequent semesters

HGEN 610 Current Literature in Human Molecular Genetics	1
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	13
<b>Total</b>	<b>15</b>

Additional information on the program can be found online at [www.gen.vcu.edu/graduate/genetics.html](http://www.gen.vcu.edu/graduate/genetics.html).

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**Genetic epidemiology track**


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**Curriculum**

Typical course plan for the full-time student in the genetic epidemiology track

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOS/STAT 543 Statistical Methods I	3
HGEN 501/BIOL 530 Human Genetics	3
HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (classic papers in human genetics)	1
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations	2
<b>Total</b>	<b>16.5</b>
<b>Spring 1</b>	
BIOS/STAT 544 Statistical Methods II	3
HGEN 502 Advanced Human Genetics	3

HGEN 606 Introduction to Clinical Genetics	1
HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (journal club)	1
IBMS 620 Laboratory Rotations (two sections)	4
Elective	3
<b>Total</b>	<b>16</b>

**Summer 1**

HGEN 600 Clinical Genetics (optional)	3
HGEN 697 Directed Research in Genetics	3-6
<b>Total</b>	<b>6</b>

**Fall 2**

HGEN 603 Mathematical and Statistical Genetics	3
HGEN 619 Quantitative Genetics	3
HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (journal club)	1
HGEN 697 Directed Research in Genetics	3
OVPR 601 Scientific Integrity	1
Elective	3
<b>Total</b>	<b>15</b>

**Spring 2**

HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (journal club)	1
HGEN 697 Directed Research in Genetics	3-13
IBMS 691 Special Topics in Interdisciplinary Biomedical Sciences (proposal writing)	0.5-4
Elective	0-6
<b>Total</b>	<b>15</b>

All subsequent semesters

HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (journal club)	1
HGEN 697 Directed Research in Genetics	13
<b>Total</b>	<b>15</b>

Additional information on the program can be found online at [www.gen.vcu.edu/graduate/genetics.html](http://www.gen.vcu.edu/graduate/genetics.html).

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**Dual-degree Master of Science in Genetic Counseling (M.S.) and Doctor of Philosophy in Human Genetics (Ph.D.)**


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Human Genetics, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications received prior to Dec 17 given priority consideration	GRE
Special requirements: International applicants must score 100 or greater on the TOEFL.			

Genetic Counseling, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Applications received prior to Feb 2 given priority consideration	GRE

The Department of Human and Molecular Genetics offers training that combines preparation for a career as a genetic counselor with research-based doctoral training in a coordinated program that integrates the complementary aspects of these two degree categories. In order to be admitted to this dual-degree program, an applicant must be accepted into both the M.S. and Ph.D. programs.

Applications for the Ph.D. program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

The Master of Science in Genetic Counseling program is accredited by the American Board of Genetic Counseling. The master's degree requires four semesters of study for students entering with a bachelor's degree, and it must be completed within five years. The student working toward the Master of Science has an integrated and progressively complex classroom and supervised clinical experience. The program requires an original research project under the supervision of a faculty adviser. In this dual degree program, clinical exposure/experience will begin in the third year.

The straddling of the student and professional roles is a lifelong process in the changing field of human genetics and genetic counseling. Graduates of this program will be contributing members of the clinical genetics team of counselors, physicians and basic scientists.

## Human Genetics, Master of Science (M.S.)

### Admission requirements summary

Human Genetics, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Applications received prior to Feb 1 given priority consideration	GRE
Special requirements: International applicants must score 100 or greater on the TOEFL			

The Department of Human and Molecular Genetics offers a comprehensive program in graduate study leading to a Master of Science in Human Genetics. The program includes the completion of an original research project under the supervision of a faculty adviser and a background/foundation of courses that prepare students for research-oriented careers in the rapidly expanding field of human genetics. Major areas of study available to master's students in the program include clinical and molecular cytogenetics, molecular genetics, developmental genetics, cancer genetics, behavior genetics, population and quantitative genetics, genetic epidemiology, clinical genetics, and genetic counseling.

### Student learning outcomes

- **Written communication skills:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations as measured by rubric.
- **Oral communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- **Experimental design:** The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- **Problem-solving skills:** The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in human and molecular genetics research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- **Integrated knowledge of human and molecular genetics:** The candidate will demonstrate an appropriate level of knowledge of the current elements of human and molecular genetics as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.

## Curriculum

Typical course plan for the full-time student

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOS/STAT 543 Statistical Methods I	3
HGEN 501/BIOL 530 Human Genetics	3
HGEN 605 Experimental Methods in Human Genetics*	3
HGEN 690 Genetics Research Seminar	1
HGEN 691 Special Topics in Genetics (classic papers in human genetics)	1
<b>Total</b>	<b>16</b>

\*For HGEN 605, the student and faculty member will design a project that can reasonably be completed in 12 weeks. The student will spend approximately 12 weeks in that lab for a minimum of eight hours/week. The student's performance in the laboratory will serve as the basis for the grade that is received for this course.

### Spring 1

BIOC/MICR 504 Biochemistry, Cell and Molecular Biology or BIOS/STAT 544 Statistical Methods II	5 or 3
HGEN 502 Advanced Human Genetics	3
HGEN 605 Experimental Methods in Human Genetics*	3
HGEN 606 Introduction to Clinical Genetics	1
HGEN 610 Current Literature in Human and Molecular Genetics or	1
HGEN 691 Special Topics in Genetics (journal club)	
HGEN 690 Genetics Research Seminar	1
Elective	3
<b>Total</b>	<b>15-17</b>

### Summer 1

HGEN 697 Directed Research in Genetics	3-6
<b>Total</b>	<b>3-6</b>

### Fall 2

HGEN 603 Mathematical and Statistical Genetics or HGEN 614 Pathogenesis of Human Genetic Disease	3
HGEN 610 Current Literature in Human and Molecular Genetics or	1
HGEN 691 Special Topics in Genetics (journal club)	
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	3
OVPR 601 Scientific Integrity	1
Electives	6
<b>Total</b>	<b>15</b>

### Spring 2

HGEN 610 Current Literature in Human and Molecular Genetics or	1
HGEN 691 Special Topics in Genetics (journal club)	
HGEN 690 Genetics Research Seminar	1
HGEN 697 Directed Research in Genetics	13
<b>Total</b>	<b>15</b>



If needed, six additional credit hours will be taken in HGEN 697 after the second spring semester.

Additional information on the program can be found online at [www.gen.vcu.edu](http://www.gen.vcu.edu).

### Medical Physics, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Medical Physics, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Jan 15	GRE

The Ph.D. in Medical Physics offers students course work and research training in physics as it is applied to the diagnosis and treatment of human diseases. Research areas include molecular imaging, functional imaging using PET and NMR, cone-beam CT image reconstruction, deformable image registration, intensity-modulated radiation therapy, radiation therapy dose calculations, 4D radiation therapy and brachytherapy dose calculations.

#### Student learning outcomes

- **Communication skills:** The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired. The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- **Experimental design:** The candidate should demonstrate an appropriate level of skill in the theoretical and technical design of experimental procedures and the technical conduct of experimentation related to his or her research. This includes demonstration of an appropriate level of competence in the ability to appraise, modify and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- **Knowledge of medical physics literature:** The candidate should demonstrate a general knowledge of medical physics literature and a more detailed knowledge of his or her area of research, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- **Problem-solving:** The candidate should demonstrate an appropriate level of skill in the identification of meaningful medical physics research problems, including the ability to defend said identifications, and the design and implementation of appropriate problem-solving methods as measured by rubric.

### Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Medicine, students are expected to satisfy the following minimum standards for admission:

- Students must have a minimum of 30 semester credits in undergraduate physics, physical science or engineering, of which at least 18 credits must be at the upper level. Background courses should include calculus 1 and 2, linear algebra, differential equations, modern physics, and electricity and magnetism physics.
- Students must submit satisfactory GRE scores.
- Applicants must present minimum GPA of 3.0 on a 4-point scale for undergraduate degree or most recently completed graduate degree.

Provisional admission may be granted where deficiencies exist. These deficiencies must be removed by the end of the first year of residence or its part-time equivalent, when the student's application will be re-examined. Courses that are designed to remove deficiencies will not be accepted for credit toward the graduate degree.

### Degree requirements

Students entering the program with an undergraduate degree are required to earn a minimum of 30 credits in didactic or laboratory course work. Students entering with a master's degree in medical physics, physics or an appropriate related field are required to earn a minimum of 18 course credits. In addition to course work, the Ph.D. requires a minimum of 12 credits in MEDP 697 (directed research). At least half of the course work must be earned at the 600 level or higher. Detailed degree requirements are listed in the medical physics graduate handbook.

All new Ph.D. students entering the program will be assigned an adviser. After successful completion of the written comprehensive exam the student and adviser will develop a Graduate Dissertation Committee. The committee will direct the student in his/her research and subsequent course selection, will report once a semester to the program director on the academic progress of the student and will administer the oral candidacy and dissertation defense examinations.

The student is required to complete written and oral examinations to be admitted as a Ph.D. candidate. The written comprehensive examination covers core knowledge and applications in medical physics course work, as well as basic concepts in physics, chemistry and biology. The oral examination, administered by the student's graduate dissertation committee, is based upon a written prospectus describing the proposed dissertation research project. Examiners evaluate the adequacy of the proposed project, the student's level of understanding of the project and the likelihood that the dissertation can be completed successfully.

After becoming a Ph.D. candidate, the student must conduct a substantial original investigation under the supervision of his/her adviser and must prepare a dissertation reporting the results of the research in the context of existing scientific knowledge. After the dissertation has been completed and unanimously accepted for defense by the student's graduate dissertation committee, the candidate will appear before the committee for an oral defense. The oral dissertation defense examines the candidate's research, dissertation documentation, and underlying fundamental knowledge. Upon successful completion of the defense and dissertation, the student may apply for graduation with a Ph.D. in Medical Physics.

### Medical Physics, Master of Science (M.S.)

#### Admission requirements summary

Medical Physics, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jan 15	GRE

The Master of Science in Medical Physics offers students course work and practical clinical training in physics as it is applied to the diagnosis and treatment of human diseases. Required course work provides theoretical and practical training in radiation dosimetry, radiation biology, radiation therapy, imaging and health physics.

#### Student learning outcomes

- **Clinical performance:** The candidate should demonstrate an appropriate level of skill in the theoretical and practical and technical conduct of medical physics in the clinical setting. This includes demonstration of an appropriate level of competence in the ability to:
  - Design and quality assure radiation therapy treatment plans for both brachytherapy and external beam radiation therapy.
  - Quality assure radiation therapy delivery devices
  - Quality assure radiation therapy treatment charts
  - Perform calibration and/or beam delivery commissioning measurements as measured by instructor evaluation in compliance with accepted clinical standards.
- **Communication skills:** The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired. The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by course work and performance on the written comprehensive examination. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling, chart notation and use of vocabulary to effectively present information including the use of figures, tables and citations as

measured by course work and performance on the written comprehensive examination.

- **Medical physics knowledge base:** The candidate should demonstrate satisfactory knowledge of the base of scientific information required to practice clinical medical physics. This includes general knowledge of medical physics scientific materials, clinical policies and procedures, and translational scientific literature. The student should demonstrate the ability to evaluate and integrate such knowledge into the solution of clinical problems as measured by course work and performance on the written comprehensive examination.
- **Problem-solving:** The candidate should demonstrate an appropriate level of skill in the identification of clinical medical physics problems and the design and implementation of appropriate problem-solving methods and solutions as measured by course work, annual review and performance on the written comprehensive examination.

## Admission requirements

In addition to the general requirements for admission to graduate programs in the Graduate School and the School of Medicine, students are expected to satisfy the following minimum standards for admission:

- Students must have a minimum of 30 semester credits in undergraduate physics, physical science or engineering, of which at least 18 credits must be at the upper level. Background courses should include calculus 1 and 2, linear algebra, differential equations, modern physics, and electricity and magnetism physics.
- Students must submit satisfactory GRE scores.
- Applicants must present minimum GPA of 3.0 on a 4-point scale for undergraduate degree or most recently completed graduate degree.

Provisional admission may be granted where deficiencies exist. These deficiencies must be removed by the end of the first year of residence or its part-time equivalent, when the student's application will be re-examined. Courses that are designed to remove deficiencies will not be accepted for credit toward the graduate degree.

## Degree requirements

Students entering the program with an undergraduate degree are required to earn a minimum of 30 credits in didactic or laboratory course work. At least 15 credits must be earned at the 600 level or higher. Detailed degree requirements are listed in the medical physics graduate handbook.

Students are required to complete the 19 credits of the core graduate medical physics course work: MEDP 563, 567, 601, 630, 635, 636, 689 and six credits of MEDP 682. Additionally, students also must demonstrate competence in anatomy through completion of an undergraduate or graduate anatomy course approved by the Graduate Curriculum Committee.

Following completion of course work, students will be required to pass a comprehensive examination administered by the Medical Physics Comprehensive Examination Committee. The comprehensive examination will cover materials from the core medical physics courses and clinical rotations.

### Microbiology and Immunology, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Microbiology and Immunology, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Dec 17 given priority consideration	GRE or MCAT
<b>Special requirements:</b>			
Combined GRE Verbal and Quantitative Score of 1200 or greater, MCAT score of 26 or greater			
International applicants must score greater than 600 (paper) on GRE verbal and quantitative tests, greater than 250 (computer) on TOEFL			
MCAT acceptable in lieu of GRE for combined professional/academic degree programs			

The Department of Microbiology and Immunology has an outstanding faculty with diverse research interests that include cell and molecular biology, molecular genetics, molecular pathogenesis, bacteriology, immunology, immunotoxicology, virology, parasitology, mycology, and oncology. The goal of the graduate program is to prepare students to become creative problem solvers and leaders in scientific research. The Ph.D. degree is offered, as well as an M.D./Ph.D. degree for medical students interested in academic or research careers.

The research experience is complemented with excellent course offerings, seminar programs, teaching opportunities, presentations at scientific meetings and writing of grant applications and scientific papers. Graduate students acquire a wide range of research experience in the first year through exposure to a variety of research laboratories and investigators. The student chooses a research adviser, undergoes an oral examination and then carries out an original, independent research project under the direction of the adviser. The project falls under the review of an advisory committee, and a written dissertation is defended in a final oral examination.

#### Student learning outcomes

##### • Communication Skills

**Oral communication:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.

- **Unsatisfactory** – Topics are poorly developed with limited or poorly presented supporting details; presentation is unfocused with limited relationship of aims and supporting information; speaker displays inadequate/inappropriate use of vocabulary, eye contact, posture, presentation appears unpracticed; visual materials poorly support points in the presentation; speaker fails to appropriately address questions.
- **Satisfactory** – Topics are adequately developed with inclusion of supporting materials; presentation is appropriately organized and is inclusive of aims and supporting information; speaker appears proficient in presentation skills though occasional flaws are present; presentation is adequately paced with clear exposition and logical presentation; visual materials support points in the presentation; speaker addresses questions adequately.
- **Exemplary** – Topic is well-developed, effectively supported by relevant information; organization of presentation reflects creation of a well-structured framework; speaker displays consistent use of correct grammar and vocabulary and professional delivery, including eye contact and physical demeanor; visual materials are effective in supporting and enhancing the presentation; speaker addresses questions carefully and thoroughly, integrating additional information in responses.

**Written communication:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.

- **Unsatisfactory** – Document contains numerous grammar, syntax and spelling errors; use of vocabulary is inadequate; content is incomplete and/or inadequately organized to communicate message; presentation of figures and tables disjointed and confusing and/or displays absence/inappropriate use of citations.
- **Satisfactory** – Rules of grammar, syntax and spelling are followed with minimal errors; use of vocabulary is appropriate; content is adequately organized to communicate message; presentation of figures and tables provides an enhancement of the message in the presentation; citations are appropriately presented.
- **Exemplary** – Rules of grammar, syntax and spelling are consistently followed; vocabulary enhances communication of message; content is creatively organized with smooth transitions in the presentation of the message; use of figures and tables reflects an analysis of effective means of supporting message; citations are appropriately presented.

##### • Experimental design

The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.

- Unsatisfactory – Student fails to recognize limitations in the design of experimental protocols that compromise their suitability for productive research; student displays limited ability to adopt protocol descriptions for experiment and data acquisition; student lacks the level of technical skill to safely pursue unsupervised experimental work.
- Satisfactory – Student displays appropriate ability to identify experimental protocols appropriate to the research objective; student displays appropriate technical ability to implement protocols for data acquisition.
- Exemplary – Student displays ability to identify and select experimental protocols most appropriate to the research objective (may include the modification of established procedures); student displays appropriate technical ability to implement protocols for data acquisition.

#### • Problem-solving skills

The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.

- Unsatisfactory – Student does many of the following: misinterprets or inaccurately evaluates relevant information; fails to acceptably explain procedures and/or results as related to reasons and claims; does not appropriately evaluate clear alternative explanations; draws unwarranted or fallacious conclusions; does not link evidence or reasoned analysis to claims in an appropriate manner.
- Satisfactory – Student consistently does most of the following in an appropriate fashion: identifies the appropriate reasons and claims (objective and hypothesis) related to the problem; accurately evaluates relevant information available including presentation of methodology, data reduction and presentation, reference citations, statements and questions, etc.; analyzes the relation of the information to the reasons and claims, including (as appropriate) alternative explanations; draws warranted, non-fallacious conclusions; follows development of evidence to reasoned conclusion.
- Exemplary – Student consistently does the following in an appropriate fashion: identifies the appropriate reasons and claims (objective and hypothesis) related to the problem; accurately evaluates relevant information available including presentation of methodology, data reduction and presentation, reference citations, statements and questions, etc.; independently analyzes and evaluates the relation of the information to the reasons and claims, including (as appropriate) alternative explanations; draws warranted, non-fallacious and judicious conclusions; follows development of evidence to reasoned conclusion.

#### • General knowledge of science

The candidate should demonstrate a general knowledge of the elements of the sciences as related to molecular/cellular bioscience and a detailed knowledge of his or her area of research, including an appropriate familiarity with the research literature.

- Unsatisfactory – Student demonstrates knowledge of factual material limited to a level appropriate to a baccalaureate graduate in the sciences; knowledge of bioscience related to the student's research area is unrelated to the current research literature.
- Satisfactory – Student demonstrates ability to apply fundamental concepts to advanced topics in bioscience and ability to relate the current research literature to her or his area of research.
- Exemplary – Student demonstrates ability to apply fundamental concepts to advanced topics in bioscience and a command of the current research literature related to her or his area of research including the ability to relate the literature to the student's research product.

## Curriculum

### Semester 1 – fall (recommended for all first-year students)

Temporary adviser appointed

IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations (two sections)	4

IBMS 630 Critical Thinking	1
IBMS 690 Basic Health Sciences Research Seminar	1
IBMS 691 Special Topics in Interdisciplinary Biomedical Sciences (S/U/F)	0.5-4
IBMS 692 Special Topics in Interdisciplinary Biomedical Sciences (graded)	0.5-4
MICR/BIOC 503 Biochemistry, Cell and Molecular Biology	1-5
MICR 505 Immunobiology	3
MICR 515 Principles of Molecular Microbiology	3

### Semester 2 – spring (recommended for all first-year students)

IBMS 620 Laboratory Rotations	2
IBMS 680 Proposal Preparation	1
IBMS 690 Basic Health Sciences Research Seminar	1
IBMS 691 Special Topics in Interdisciplinary Biomedical Sciences (S/U/F)	0.5-4
IBMS 692 Special Topics in Interdisciplinary Biomedical Sciences (graded)	0.5-4
MICR/BIOC 504 Biochemistry, Cell and Molecular Biology	1-5
MICR 616 Mechanisms of Viral and Parasite Pathogenesis*	3
MICR 618 Molecular Mechanisms of Bacterial Pathogenesis*	3
MICR 686 Advanced Immunobiology*	2

\* students take two of three classes

Cumulative GPA of 3.0 required to continue; permanent adviser chosen after three rotations completed.

### Summer 1

MICR 697 Directed Research in Microbiology	variable (1-6)
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### Semesters 3 and 4 – fall/spring

MICR 607 Techniques in Molecular Biology and Genetics	2
MICR 690 Microbiology Research Seminar [departmental (attendance required)]	1
MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)]	1
MICR 697 Directed Research in Microbiology	variable
OVPR 601 Scientific Integrity	1

### Optional electives

MICR 605 Prokaryotic Molecular Genetics	3
MICR/BNFO 653 Advanced Molecular Genetics: Bioinformatics	3

Student's GAC formed, first meeting held in the fall; written examination in the spring.

### Summer 2

MICR 697 Directed Research in Microbiology	variable (1-6)
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### Semesters 5 and 6 – fall/spring

MICR 690 Microbiology Research Seminar [departmental (attendance required)]	1
MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)]	1
MICR 697 Directed Research in Microbiology	variable
Oral examination	

### Summer 3

MICR 697 Directed Research in Microbiology	variable (1-6)
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**Semesters 7 and 8 – fall/spring**

MICR 690 Microbiology Research Seminar [departmental (attendance required)]	1
MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)]	1
MICR 697 Directed Research in Microbiology	variable

**Summer 4**

MICR 697 Directed Research in Microbiology	variable (1-6)
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**Semesters 9 and 10 – fall/spring**

MICR 690 Microbiology Research Seminar [departmental (attendance required)]	1
MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)]	1
MICR 697 Directed Research in Microbiology	variable
Thesis defense	

**Microbiology and Immunology, Master of Science (M.S.)****Admission requirements summary**

Microbiology and Immunology, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Applications received prior to Jan 7 given priority consideration	GRE or MCAT
<b>Special requirements:</b>			
Combined GRE Verbal and Quantitative Score of 1200 or greater, MCAT score of 26 or greater			
International applicants must score greater than 600 (paper) on GRE verbal and quantitative tests, greater than 250 (computer) on TOEFL			
MCAT acceptable in lieu of GRE for combined professional/academic degree programs			

The Department of Microbiology and Immunology has an outstanding faculty with diverse research interests that include cell and molecular biology, molecular genetics, molecular pathogenesis, bacteriology, immunology, immunotoxicology, virology, parasitology, mycology, and oncology. The goal of the graduate program is to prepare students to become creative problem solvers and leaders in scientific research. The Master of Science degree is offered, as well as a Ph.D., and an M.D./Ph.D. degree for medical students interested in academic or research careers.

The research experience is complemented with excellent course offerings, seminar programs, teaching opportunities, presentations at scientific meetings and writing scientific papers. Graduate students acquire a wide range of research experience in the first year through exposure to a variety of research laboratories and investigators. The student chooses a research adviser and then carries out an original, independent research project under the direction of the adviser. The project falls under the review of an advisory committee, and a written dissertation is defended in a final oral examination. For more detailed information on the program please visit [www.vcu.edu/micro](http://www.vcu.edu/micro).

**Student learning outcomes**

- Problem-solving skills**

The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.

- Unsatisfactory – Student does many of the following: misinterprets or inaccurately evaluates relevant information; fails to acceptably explain procedures and/or results as related to reasons and claims; does not appropriately evaluate clear alternative explanations; draws unwarranted or fallacious conclusions; does not link evidence or reasoned analysis to claims in an appropriate manner.

- Satisfactory – Student consistently does most of the following in an appropriate fashion: identifies the appropriate reasons and claims (objective and hypothesis) related to the problem; accurately evaluates relevant information available including presentation of methodology, data reduction and presentation, reference citations, statements and questions, etc.; analyzes the relation of the information to the reasons and claims, including (as appropriate) alternative explanations; draws warranted, non-fallacious conclusions; follows development of evidence to reasoned conclusion.
- Exemplary – Student consistently does the following in an appropriate fashion: identifies the appropriate reasons and claims (objective and hypothesis) related to the problem; accurately evaluates relevant information available including presentation of methodology, data reduction and presentation, reference citations, statements and questions, etc.; independently analyzes and evaluates the relation of the information to the reasons and claims, including (as appropriate) alternative explanations; draws warranted, non-fallacious and judicious conclusions; follows development of evidence to reasoned conclusion.

- General knowledge of sciences**

The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.

- Unsatisfactory – Student demonstrates knowledge of factual material limited to a level appropriate to a baccalaureate graduate in the sciences; knowledge of bioscience related to the student's research area is unrelated to the current research literature.
- Satisfactory – Student demonstrates ability to apply fundamental concepts to advanced topics in bioscience and ability to relate the current research literature to her or his area of research.
- Exemplary – Student demonstrates ability to apply fundamental concepts to advanced topics in bioscience and a command of the current research literature related to her or his area of research including the ability to relate the literature to the student's research product.

- Communication skills**

The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.

**Oral communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.

**Written communication skills:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.

- Unsatisfactory – Student fails to display ability to select and present bioscience information and experimental data in a fashion appropriate to the research problem; student does not effectively communicate the nature of the research project and the experimental approach taken to address the problem.
- Satisfactory – Student demonstrates ability to effectively communicate relevant bioscience information and to describe the collection of experimental data and the relation of data to the research problem.
- Exemplary – Student demonstrates ability to effectively communicate and explain relevant bioscience information, to describe the collection of experimental data, the relation of data to the research problem and the analysis of results.

- Experimental design**

The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.

- Unsatisfactory – Student fails to recognize limitations in the design of experimental protocols that compromise their suitability for productive research; student displays limited ability to adopt protocol descriptions

for experiment and data acquisition; student lacks the level of technical skill to safely pursue unsupervised experimental work.

- Satisfactory – Student displays appropriate ability to identify experimental protocols appropriate to the research objective; student displays appropriate technical ability to implement protocols for data acquisition.
- Exemplary – Student displays ability to identify and select experimental protocols most appropriate to the research objective (may include the modification of established procedures); student displays appropriate technical ability to implement protocols for data acquisition.

## Curriculum

### Credits

#### Semester 1 – fall (taken by all first-year students)

Temporary adviser appointed

IBMS 600 Laboratory Safety 1

MICR/BIOC 503 Biochemistry, Cell and Molecular Biology 5

MICR 505 Immunobiology 3

MICR 515 Principles of Molecular Microbiology 3

MICR 608 Introduction to Microbiology and Immunology Research 3

(one rotation/principle investigator lectures)

MICR 690 Microbiology Research Seminar (attendance required) 1

#### Semester 2 – spring (taken by all first-year students)

MICR/BIOC 504 Biochemistry, Cell and Molecular Biology 5

MICR 609 Introduction to Microbiology and Immunology Research (two rotations) 3

MICR 616 Mechanisms of Viral and Parasite Pathogenesis\* 3

MICR 618 Molecular Mechanisms of Bacterial Pathogenesis\* 3

MICR 686 Advanced Immunobiology\* 2

MICR 690 Microbiology Research Seminar [departmental (attendance required)] 1

\* students take two of three classes

Cumulative GPA of 3.0 required to continue; permanent adviser chosen after three rotations completed.

#### Summer 1

MICR 697 Directed Research in Microbiology variable (1-6)

#### Semesters 3 and 4 – fall/spring

MICR 602 Techniques in Molecular Biology and Genetics 2

MICR 690 Microbiology Research Seminar [departmental (attendance required)] 1

MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)] 1

MICR 697 Directed Research in Microbiology variable

OVPR 601 Scientific Integrity 1

#### Optional electives

MICR 606 Molecular Biology and Genetics 3

MICR/BNFO 653 Advanced Molecular Genetics: Bioinformatics 3

Student's GAC formed, first meeting held in the fall.

#### Summer 2

MICR 697 Directed Research in Microbiology variable (1-6)

#### Semesters 5 and 6 – fall/spring

MICR 690 Microbiology Research Seminar [departmental (attendance required)] 1

MICR 691 Special Topics in Microbiology [journal club (graded Pass/Fail)] 1

MICR 697 Directed Research in Microbiology variable

Oral examination/thesis defense

### Molecular biology and genetics, interdisciplinary doctoral curricula with Anatomy and Neurobiology, Biochemistry and Molecular Biology, Human Genetics, Microbiology and Immunology, Pathology, Pharmacology and Toxicology, and Physiology Ph.D. programs

The molecular biology and genetics curriculum is an integrated interdisciplinary program of study that builds on the graduate programs of participating departments in the School of Medicine. The core curriculum is specifically designed to provide a strong foundation in biochemistry, cell biology and molecular genetics, culminating in the conduct of an original research project under the supervision of a faculty adviser. Electives drawn from various departments allow individual specialization. The departments through which a Ph.D. with a concentration in molecular biology and genetics can be pursued include Anatomy and Neurobiology, Biochemistry and Molecular Biology, Human and Molecular Genetics, Microbiology and Immunology, Pathology, Pharmacology and Toxicology, and Physiology and Biophysics. Participating faculty are associated not only with programs and departments within the School of Medicine, but also VCU Massey Cancer Center, Philips Institute for Oral and Craniofacial Molecular Biology (School of Dentistry), Institute of Structural Biology and Drug Discovery (School of Pharmacy) and the VCU Center for the Study of Biological Complexity (VCU Life Sciences) and VCU's School of Engineering. The interdisciplinary approach to the solution of biological problems provided by this training is designed to teach students the flexibility and problem-solving skills necessary for success in a variety of scientific research-oriented career opportunities.

All students are required to satisfy the core curriculum requirements, which are supplemented with electives appropriate to the individual research program area and with directed research under the supervision of the thesis adviser. Some departments may require specific electives. The core curriculum consists of the following courses, most of which are taken during the first two years of graduate study.

#### Student learning outcomes

- Problem-solving skills  
The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- General knowledge of sciences  
The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications, as measured by rubric.
- Communication skills  
The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.
  - Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
  - Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.



- Experimental design  
The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.

## Core curriculum

	Credits
BIOC/MICR 503-504 Biochemistry, Cell and Molecular Biology	10
BIOC 602 Physical Properties of Macromolecules (modules 1 and 2)	2
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations (three rotations)	6
IBMS 630 Critical Thinking (or BIOC 691 or HGEN 691 equivalents)	1
IBMS 690 Basic Health Sciences Research Seminar (first year only)	1
MICR 605 Prokaryotic Molecular Genetics	3
MICR 607 Techniques in Molecular Biology and Genetics	2
MICR 690 Microbiology Research Seminar (section 2 – MBG; every semester beginning in the second year)	1
MICR 693 Topics in Molecular Biology and Genetics [MBG journal club (must take at least twice)]	1
OVPR 601 Scientific Integrity or OVPR 602 or OVPR 603	1
Eukaryotic molecular biology	3-4
Approved options include:	
BIOC 605 Molecular Biology	
HGEN 602 Genetic Models of Disease	
HGEN 614 Pathogenesis of Human Genetic Disease	
MICR 684 Molecular Biology of Cancer	
PATH 670 Experimental Approaches to Tumor Biology	
PHTX 625 Cell Signaling and Growth Control	

For additional information, visit [www.vcu.edu/mbg/](http://www.vcu.edu/mbg/).

### Molecular biology and genetics, interdisciplinary master's curricula with Anatomy and Neurobiology, Biochemistry and Molecular Biology, Human Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology M.S. programs

The molecular biology and genetics curriculum is an integrated interdisciplinary program of study that builds on the graduate programs of participating departments in the School of Medicine. The master's program is designed to be an intensive course of study that will prepare students for research-oriented careers in biotechnology or provide the foundation for further graduate study toward a Ph.D. It is expected that the program should be completed in approximately two to two-and-one-half years. The curriculum includes core, specialization and elective courses. Electives drawn from various departments allow individual specialization. The final three semesters include a research project conducted under the guidance of a selected faculty mentor and culminates in the presentation and defense of a masters thesis.

The departments through which an M.S. with a concentration in molecular biology and genetics can be pursued include Anatomy and Neurobiology, Biochemistry and Molecular Biology, Human and Molecular Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology and Biophysics. Participating faculty are associated not only with programs and departments within the School of Medicine, but also VCU Massey Cancer Center, Philips Institute for Oral and Craniofacial Molecular Biology (School of Dentistry), Institute of Structural Biology and Drug Discovery (School of Pharmacy) and the VCU Center for the Study of Biological Complexity (VCU Life Sciences). The

interdisciplinary approach to the solution of biological problems provided by this training is designed to teach students the flexibility and problem-solving skills necessary for success in a variety of scientific career opportunities or further graduate study.

## Student learning outcomes

- Problem-solving skills**  
The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- General knowledge of sciences**  
The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications, as measured by rubric.
- Communication skills**  
The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.
  - Oral communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
  - Written communication skills:** The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- Experimental design**  
The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.

## Curriculum

Course plan for the full-time student. Some departments may require specific electives.

	credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
IBMS 600 Laboratory Safety	1
IBMS 620 Laboratory Rotations (sections 004 and 005)	4
MICR 690 Microbiology Research Seminar	1
Elective	3
<b>Spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
MICR 690 Microbiology Research Seminar	1
Directed research	3
Electives	6
<b>Summer 1</b>	
Directed research	1-6
<b>Fall 2</b>	
MICR 607 Techniques in Molecular Biology and Genetics	2
MICR 690 Microbiology Research Seminar	1
OVPR 601 Scientific Integrity*	1
Directed research	11

**Spring 2**

MICR 690 Microbiology Research Seminar	1
MICR 693 Topics in Molecular Biology and Genetics [MBG journal club (must take at least once)]	
Directed research	13

\* This requirement may also be satisfied with OVPR 602 or 603.

For additional information visit [www.vcu.edu/mbg/](http://www.vcu.edu/mbg/).

## Neuroscience, Doctor of Philosophy (Ph.D.)

**Admission requirements summary****Neuroscience, Doctor of Philosophy (Ph.D.)**

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Apr 15 Applications received prior to Dec 17 given priority consideration	GRE or MCAT

The doctoral program in neuroscience at VCU is an interdepartmental, integrated curriculum for graduate study leading to the Ph.D. degree in neuroscience. The program offers flexibility for students to train in a laboratory chosen among neuroscience faculty members in multiple departments who are exploring the fields of molecular, cellular, developmental, systems, behavioral and clinical neuroscience. The curriculum consists of a set of core courses and electives that are customized for each student to best complement their individual research interests. The program provides students with a core of knowledge of the basic structure and function of the central nervous system, while allowing maximum flexibility in the choice of advisers, electives and areas of research specialization. The neuroscience Ph.D. program prepares students to teach in the neuroscience disciplines at a university or academic health center, and is distinguished by its objective to prepare the student to function as an independent scientific research investigator.

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

**Student learning outcomes**

- Acquire the core knowledge of neuroscience: Students will demonstrate acquisition of core knowledge presented in required and elective courses.
- Demonstrate knowledge of the neuroscience scientific literature: Students will demonstrate the ability to integrate and comprehensively review the scientific literature.
- Acquire competency of oral communication: Students will prepare and deliver effective seminars and poster presentations.
- Acquire competency of written communication: Students will generate an original dissertation and written comprehensive exam as well as prepare and publish high-quality scientific manuscripts.
- Demonstrate the ability to design experiments: Students will evaluate existing scientific knowledge related to their project, identify a scientific question and formulate testable hypotheses.
- Demonstrate the ability to conduct and interpret experiments: Students design experiments to test their hypotheses, carry out those experiments and interpret their results.
- Obtain employment upon graduation: Student will successfully obtain employment in a neuroscience-related position upon graduation.

**Curriculum**

Course plan for full-time student

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
IBMS 620 Laboratory Rotations	2

IBMS 630 Critical Thinking or	1
BIOC 691 Special Topics in Biochemistry (critical thinking)	
NEUS 609 Cellular and Molecular Neuroscience	4
NEUS 690 Neuroscience Research Seminar or	1
IBMS 690 Basic Health Sciences Research Seminar	

**Spring 1**

ANAT 610 Systems Neuroscience	4
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
IBMS 620 Laboratory Rotations	2
IBMS 630 Critical Thinking or	1
BIOC 691 Special Topics in Biochemistry (critical thinking)	
NEUS 690 Neuroscience Research Seminar or	1
IBMS 690 Basic Health Sciences Research Seminar	

**Summer 1**

Directed research with thesis adviser	6
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**Fall 2**

ANAT 630 Research Presentations	1
NEUS 690 Neuroscience Seminar	1
OVPR 601 Scientific Integrity	1
Advanced electives	
Research credits	

**Spring 2**

ANAT 615 Techniques in Neuroscience and Cell Biology	2
ANAT 620 Scientific Writing and Grantsmanship	2
ANAT 630 Research Presentations	1
IBMS 680 Proposal Preparation	1
NEUS 690 Neuroscience Research Seminar	1
Advanced elective	
Research credits	

**Years 3-5** Completion of dissertation research; each semester student registers for:

ANAT 630 Research Presentations	1
NEUS 690 Neuroscience Research Seminar	1
Directed research	

## Pharmacology and Toxicology, Doctor of Philosophy (Ph.D.)

**Admission requirements summary****Pharmacology and Toxicology, Doctor of Philosophy (Ph.D.)**

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Jan 15	GRE

**Special requirements:**  
See [website](#) for more information

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

The Department of Pharmacology and Toxicology offers a program of graduate study leading to the Doctor of Philosophy. The broad base offered in pharmacology and toxicology, together with basic training in physiology and biochemistry, provides the background for a successful career in academic institutions, industry or government. Students customarily complete formal course work in pharmacology and biochemistry during the first year of study. Participation in research also is begun early in the first year. Students and faculty members join together in a seminar program, which includes distinguished visiting scientists from the U.S. and abroad. Following completion of a qualifying examination, a degree candidate is required to submit and defend a thesis embracing an original research project conducted under the guidance and supervision of an adviser. There is no foreign language requirement. The research program of the department is sufficiently broad to provide an adequate basis for entry into a wide variety of interesting areas of modern biology and medicine.

**Student learning outcomes**

- **Experimental design:** The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- **Communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- **Integrated knowledge of biosciences:** The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- **Problem-solving skills:** The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.

## Curriculum

A typical course plan for the full-time doctoral student is described below.

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
PHTX 690 Pharmacology Research Seminar or IBMS 690 Basic Health Sciences Research Seminar*	1
PHTX 691 Special Topics in Pharmacology (basic principles of pharmacology for graduate students)	3
Courses required by Biomedical Sciences Doctoral Portal*	6
<b>Spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
PHTX 536 Principles of Pharmacology and Toxicology	5
PHTX 690 Pharmacology Research Seminar or IBMS 690 Basic Health Sciences Research Seminar*	1
Courses required from Biomedical Sciences Doctoral Portal*	4
<b>Summer 1</b>	
PHTX 697 Directed Research in Pharmacology	3 to 6
<b>Fall 2</b>	
PHTX 690 Pharmacology Research Seminar	1
PHTX 697 Directed Research in Pharmacology	8
Advanced PHTX elective	3
Advanced elective	3
<b>Spring 2</b>	
PHTX 690 Pharmacology Research Seminar	1
PHTX 697 Directed Research in Pharmacology	variable
Advanced elective (if desired)	3
<b>Summer 2</b>	
PHTX 697 Directed Research in Pharmacology	3 to 6

\* Note: With few exceptions, Ph.D. students are enrolled in the Biomedical Sciences Doctoral Portal from matriculation until the spring semester of the second year and must meet the requirements of that program. Students not committed to an area of research will take a variety of courses but must take the above listed courses if they eventually chose the pharmacology doctoral

program. Students interested or committed to pharmacology should take the listed courses during their portal period as suggested above to assure rapid progress toward the degree.

## General course requirements

Students in the doctoral program in pharmacology and toxicology rarely take courses designed for students in the professional programs offered by the schools of Allied Health Professions, Medicine, Nursing and Pharmacy, and they are rarely allowed to apply PHTX courses designed for these students toward their degrees. A full-time course load is 15 credits in the fall and spring semesters and six credits in the summer. Students in the program must achieve a 3.0 or higher GPA overall in graduate courses and at least a 3.0 GPA in PHTX courses in order to graduate.

The following courses are generally taken before administration of the comprehensive examination:

BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
PHTX 536 Principles of Pharmacology and Toxicology	5
PHTX 690 Pharmacology Research Seminar	1
PHTX 697 Directed Research in Pharmacology	4

Two additional advanced graduate courses also must be taken prior to eligibility for the comprehensive examination. One of the courses must be chosen from the following list. The second advanced course must be taken from this list or from the additional advanced courses in the table below, as deemed appropriate by the students advisory committee.

<b>Advanced PHTX courses</b>	
NEUS 609 Cellular and Molecular Neuroscience	3
PHTX/PHIS 620 Ion Channels in Membranes	3
PHTX 625 Cell Signaling and Growth Control (spring semester)	3
PHTX 632 Neurochemical Pharmacology (spring semester)	3
PHTX 633 Behavioral Pharmacology (fall semester)	3
PHTX 644 Forensic Toxicology	3
PHTX 691 Special Topics in Pharmacology [historical perspectives in pharmacology (fall)]	3
PHTX 691 Special Topics in Pharmacology [physiology and pharmacology of the gastrointestinal system (spring)]	3

### Advanced courses in other disciplines may include, but are not limited to:

ANAT 610 Systems Neuroscience	4
BIOC 601 Membranes and Lipids	3
BIOC 602 Physical Properties of Macromolecules	3
BIOC 605 Molecular Biology	3
CHEM 504 Advanced Organic Chemistry I	3
EGRB 603 Biomedical Signal Processing	3
EGRB 610 Microprocessor Interfacing for Biomedical Instrumentation	3
MEDC 541 Survey of Molecular Modeling Methods	3
MEDC 601 Advanced Medicinal Chemistry I	1
MEDC 630 Theoretical Methods in Drug Design	2
MICR 505 Immunobiology	3
MICR/BNFO 653 Advanced Molecular Genetics: Bioinformatics	3
PHIS 604 Cell Physiology: From Molecules to Organisms	4
PHIS 615 Signal Detection in Sensory Systems	3
PHIS 617 Cellular Signaling	3

## Pharmacology and Toxicology, Master of Science (M.S.)

**Admission requirements summary**

<b>Pharmacology and Toxicology, Master of Science (M.S.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Apr 15	GRE or MCAT
Special requirements: See <a href="#">Web site</a> for more information			
MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

The Department of Pharmacology and Toxicology offers a graduate program leading to the Master of Science degree. This is a research-oriented degree program comprised of graduate course work and supervised research leading to a master's thesis. The M.S. program will be of interest to individuals planning on technical positions in pharmacology or toxicology research or testing; students interested in the health professions, such as medicine or dentistry, who desire additional research training; and for those interested in a government position, such as those offered with regulatory agencies, who seek training in pharmacology and toxicology.

**Student learning outcomes**

- **Communication skills:** The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- **Integrated knowledge of bioscience:** The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- **Problem-solving skills:** The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
- **Experimental design:** The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.

**Curriculum**

A typical course plan for the full-time master's student is described below.

	credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology*	5
PHTX 690 Pharmacology Research Seminar	1
PHTX 691 Special Topics in Pharmacology (basic principles of pharmacology for graduate students)	3
PHTX 697 Directed Research in Pharmacology	6
<b>Spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
PHTX 536 Principles of Pharmacology and Toxicology	5
PHTX 690 Pharmacology Research Seminar	1
PHTX 697 Directed Research in Pharmacology	4
<b>Summer 1</b>	
PHTX 697 Directed Research in Pharmacology	6

**Fall 2**

PHTX 690 Pharmacology Research Seminar	1
PHTX 697 Directed Research in Pharmacology	8
Advanced PHTX elective	3
Advanced elective	3

**Spring 2**

PHTX 690 Pharmacology Research Seminar**	1
PHTX 697 Directed Research in Pharmacology	variable
Advanced elective (if desired)	3

**Summer 2**

PHTX 697 Directed Research in Pharmacology	6
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\* These are typical requirements. Less advanced courses may be substituted depending on situation.

\*\* M.S. students are required to give a seminar. A student must take an advanced graduate course in their specialty.

**Advanced PHTX courses**

NEUS 609 Cellular and Molecular Neuroscience	3
PHTX/PHIS 620 Ion Channels in Membranes	3
PHTX 625 Cell Signaling and Growth Control	3
PHTX 632 Neurochemical Pharmacology	3
PHTX 633 Behavioral Pharmacology	3
PHTX 644 Forensic Toxicology	3

**Advanced courses in other disciplines may include, but are not limited to:**

ANAT 610 Systems Neuroscience	4
BIOC 601 Membranes and Lipids	3
BIOC 602 Physical Properties of Macromolecules	3
BIOC 605 Molecular Biology	3
CHEM 504 Advanced Organic Chemistry I	3
EGRB 603 Biomedical Signal Processing	3
EGRB 610 Microprocessor Interfacing for Biomedical Instrumentation	3
MEDC 541 Survey of Molecular Modeling Methods	3
MEDC 601 Advanced Medicinal Chemistry I	1
MEDC 630 Theoretical Methods in Drug Design	2
MICR 505 Immunobiology	3
MICR/BNFO 653 Advanced Molecular Genetics: Bioinformatics	3
PHIS 604 Cell Physiology: From Molecules to Organisms	4
PHIS 615 Signal Detection in Sensory Systems	3
PHIS 617 Cellular Signaling	3

**Physiology and Biophysics, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

<b>Physiology and Biophysics, Doctor of Philosophy (Ph.D.)</b>			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Dec 17 given priority consideration	GRE, MCAT
Special requirements: MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs			

Graduate study in the Department of Physiology and Biophysics of the School of Medicine is a highly individualized undertaking, of which required course work is only one component. Each student's program is tailored to meet his or her particular interests, with the primary emphasis on developing research skills and the capacity for scholarship.

Opportunities for research experience begin in the first year, when students spend time working in several faculty laboratories of their choice. These lab rotations enable students to examine current faculty research projects and choose their areas of specialization. In the second and subsequent years, increasingly more time is devoted to independent research under the guidance of a faculty adviser. Department-sponsored seminars give students opportunities to discuss their research interests with visiting scientists, and many students present their work at national professional meetings.

The Ph.D. program in physiology and biophysics normally takes at least four years to complete. The first two years are devoted mainly to course work: the first year consists primarily of required courses, while the second is geared toward electives and research. On satisfactory completion of two years of course work, students must pass written and oral comprehensive examinations to qualify for degree candidacy. Following admission to candidacy, each student must conduct a substantial original research project, prepare a written dissertation and defend it successfully in an oral examination.

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

#### Student learning outcomes

- Communication skills
  - The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired. Oral communication should be demonstrated at an appropriate level with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric. Written communication must be demonstrated at an appropriate level with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
  - The opportunity to attend discussions and present papers suggested by the department's guest seminar speakers occurs weekly (known as pre-seminar highlights), each Monday at 5 p.m., prior to the seminar (each Wednesday at noon). Students also participate in informal luncheon discussions with the speaker after the seminar. This is an opportunity to learn more about their work, career path and institutions.
  - A rotation graduate student is expected to present his or her rotation results at lab meetings and give a brief talk to the data club. Students and PI will communicate frequently to monitor process and adjust lab schedules to meet the student's curriculum needs, while still satisfying research objectives.
- Experimental design
  - The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments related to his or her research, as measured by rubric.
- General knowledge of sciences
  - The candidate should demonstrate a general knowledge of the elements of the sciences as related to molecular/cellular bioscience and a detailed knowledge of his or her area of research, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- GPA requirements
  - The program is designed to provide students with the skills required to advance to positions as physiology/bioscience researchers/trainers in a broad spectrum of positions.
  - The structure of the program provides a framework for the progressive development of a mastery of the current state of the subject matter of physiology/bioscience, an ability to synthesize this information and apply this foundation to the identification of key areas of investigation/experimentation in bioscience.

- The program relates the above framework to the development of the ability to design, implement and interpret experimental approaches which address the questions identified.
- In addition, program will develop skills in the various means of communicating both the core of bioscience knowledge and the expression of experimental design, results and interpretation to a variety of potential audiences.
- Problem-solving skills
  - The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.

## Curriculum

Typical course plan for the full-time student

	Credits
<b>G1: fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology (section 001)	5
and/or BIOC 691 Special Topics in Biochemistry [critical thinking (1 credit)]	
or HGEN 691 Special Topics in Genetics	
or IBMS 630 Critical Thinking (1 credit)	
IBMS 600 Laboratory Safety	1
IBMS 610 Laboratory Opportunities	0.5
PHIS 501 Mammalian Physiology (section 002)	5
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
or IBMS 690 Basic Health Sciences Research Seminar	
PHIS 691 Special Topics in Physiology (section 501: Physiology 501 seminar)	2
PHIS 697 Directed Research in Physiology (variable)	variable
or IBMS 620 Laboratory Rotations (2 credits)	
Elective – suggestions include:	variable
BIOS/STAT 543 Statistical Methods I (3)	
NEUS 609 Cellular and Molecular Neuroscience (4)	
PHIS 695 Research in Progress [section 001: data club (0.5)]	
<b>G1: spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
PHIS 606 Cell Physiology: From Molecules to Organisms (section 001)	3
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 692 Special Topics (section 606 Seminar for Physiology 606)	1
PHIS 697 Directed Research in Physiology (variable)	variable
or IBMS 620 Laboratory Rotations (2 credits)	
Elective – suggestions include:	variable
NEUS 609 Cellular and Molecular Neuroscience (4)	
PHIS 695 Research in Progress [section 001: data club (0.5)]	
PHTX 536 Principles of Pharmacology and Toxicology (5)	
<b>G2: summer before second year</b>	
PHIS 691 Special Topics in Physiology (section 004: physiology writing workshop)	2
PHIS 697 Directed Research in Physiology	variable
<b>G2: fall 2</b>	
OVPR 601 Scientific Integrity	1
PHIS 604 Cell Physiology: From Molecules to Organisms (section 001)	4
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 692 Special Topics (section 002: intro to electrophysiology and photonic methods)	2



PHIS 695 Research in Progress (section 001: data club)	0.5
PHIS 697 Directed Research in Physiology	variable
One advanced elective PHIS course	variable
Choose from:	
NEUS 609 Cellular and Molecular Neuroscience	
PHIS 612 Cardiovascular Physiology	
PHIS 615 Signal Detection in Sensory Systems	
PHIS 617 Cellular Signaling	
PHIS 619 Mitochondrial Pathophysiology and Human Diseases	
PHIS/PHTX 620 Ion Channels in Membranes	
PHIS 691 Special Topics in Physiology (section 003: physiology and pharmacology gastrointestinal systems)	

**G2: spring 2**

IBMS 680 Proposal Preparation	1
PHIS 630 Methods in Molecular Biophysics: A Practical Approach	2
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 692 Special Topics (section 003: application of methods to resolve problems)	1
PHIS 695 Research in Progress (section 001: data club)	0.5
PHIS 697 Directed Research in Physiology	variable
One advanced elective PHIS course	variable
Choose from:	
NEUS 609 Cellular and Molecular Neuroscience	
PHIS 612 Cardiovascular Physiology	
PHIS 615 Signal Detection in Sensory Systems	
PHIS 617 Cellular Signaling	
PHIS 619 Mitochondrial Pathophysiology and Human Diseases	
PHIS/PHTX 620 Ion Channels in Membranes	
PHIS 691 Special Topics in Physiology (section 003: physiology and pharmacology gastrointestinal systems)	

The student would be expected to stand for his qualifying exam at the completion of the second year.

**G3+ (years 3, 4, etc.)**

PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 695 Research in Progress (section 001: data club)	0.5
PHIS 697 Directed Research	variable

For additional information see the departmental Web site at [www.vcu.edu/physio](http://www.vcu.edu/physio).

### Physical therapy track in Physiology and Biophysics Ph.D. program

**Admission requirements summary**

Physical therapy track in Physiology and Biophysics Ph.D. program			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications received prior to Jan 7 given priority consideration	B.S., M.S. or D.P.T. in Physical Therapy Contact Physical Therapy or Physiology and Biophysics for specific admission requirements

The Department of Anatomy and Neurobiology and the Department of Physiology and Biophysics of the School of Medicine, together with the Department of Physical Therapy of the School of Allied Health Professions offers Ph.D. programs in anatomy and neurobiology and physiology and biophysics with physical therapy tracks. The goals of the doctoral programs are to train students in research and educational skills in preparation for students to function as physical therapy faculty members. Application is made to either the Department of Anatomy and Neurobiology or the Department of Physiology and Biophysics. Acceptance into either of the programs requires approval by the admission committees of the cooperating departments. **Graduates receive either the Ph.D. in Anatomy and Neurobiology or the Ph.D. in Physiology and Biophysics.**

Applications for the program should be submitted to the **Biomedical Sciences Doctoral Portal – School of Medicine-PhD** selected from the drop-down menu of programs on the VCU online application form.

Students in the physical therapy track of the anatomy and neurobiology doctoral program take required courses within the departments of Anatomy and Neurobiology and Physical Therapy. Students in the physical therapy track of the physiology and biophysics program take required courses within the departments of Physiology and Biophysics and Physical Therapy. (Other courses may be required by the students dissertation committee.) In both programs, the student plans and conducts a research study generally under the direction of a faculty member of the Department of Physical Therapy; however, the dissertation adviser may be from either of the two primary departments. In addition, the student is required to assist in teaching three courses.

In addition to the requirements listed above, admission to either of the programs requires:

- A minimum of a bachelor's degree
- Graduation from an accredited program in physical therapy (or equivalent, if trained outside the United States)
- Demonstrated clinical experience in physical therapy

Applicants to the physical therapy track of the physiology and biophysics program also are encouraged to have completed at least one course in organic chemistry. Applicants should refer to the departmental Web site for more information or contact:

Dr. Sheryl Finucane, Director of Graduate Studies  
Department of Physical Therapy  
School of Allied Health Professions  
Virginia Commonwealth University  
P.O. Box 980224  
Richmond, VA 23298-0224  
Phone: (804) 828-0234

For additional information about the collaborating departments, refer to their Web sites:

- Department of Physical Therapy
- Department of Anatomy and Neurobiology
- Department of Physiology and Biophysics

### Physiology and Biophysics, Master of Science (M.S.)

**Admission requirements summary**

Physiology and Biophysics, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	None. Generally applications accepted through June for admission the following fall.	GRE, MCAT or DAT
<b>Special requirements:</b>			
MCAT or DAT acceptable in lieu of GRE for combined professional/academic degree programs.			
Students admitted through the certificate program only.			

The department offers courses of study leading to two graduate degrees in physiology and biophysics, the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.). A combined M.D./Ph.D. degree program also is available through this department and the School of Medicine. It is generally recommended that students intending to pursue careers as professional physiologists should attempt to earn the Ph.D. Work done in partial or complete fulfillment of the requirements for the master's degree may be applied toward the Ph.D. provided that it is of adequate quality.

Graduate education in physiology and biophysics is a highly individualized enterprise, of which the formal course requirements comprise only a portion. The degree program described here provides an opportunity for apprenticeship in research and, through this, the development of a capacity for scholarship. The essence of this type of education lies in the development of a close relationship between the student and the faculty adviser. The adviser and the student, jointly

and with the approval of the department chair and the associate dean of medicine for graduate education, select the student's graduate advisory committee.

The Master of Science includes a year of course work and a second year largely devoted to completion of an independent research project, writing a thesis based on this work and a successful oral defense of this thesis and completed course work.

#### Student learning outcomes

- Communication skills
  - Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
  - Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- Experimental design
  - The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
- General knowledge of sciences
  - The candidate will demonstrate an appropriate level of knowledge of the current elements of the biosciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.
- Problem-solving skills
  - The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.

## Curriculum

Typical course plan for the full-time student

	Credits
<b>Fall 1</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
PHIS 501 Mammalian Physiology (section 001)	5
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
Elective – suggestions include:	variable
ANAT 611 Histology (5)	
BIOS/STAT 543 Statistical Methods I (3)	
MICR 505 Immunobiology (3)	
PHTX 548 Drug Dependence (3)	
<b>Spring 1</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
Elective – suggestions include:	variable
ANAT 610 Systems Neuroscience (4)	
PHIS 512 ECG and Mechanism of Disease (3)	
PHIS 691 Special Topics (cardiac auscultation and hemodynamics) (2)	
PHIS 697 Directed Research in Physiology	
PHTX 535 Introduction to Toxicology (4)	
PHTX 536 Principles of Pharmacology and Toxicology (5)	
PHTX 691 Special Topics in Pharmacology (neuroimmunology) (3)	

PHTX 691 Special Topics in Pharmacology (psychobioneuroimmunology) (3)

#### Fall 2

OVPR 601 Scientific Integrity	1
PHIS 604 Cell Physiology: From Molecules to Organisms (section 001)	4
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 691 Special Topics in Physiology (section 501: seminar for PHIS 501)	2
PHIS 697 Directed Research in Physiology	variable

#### Spring 2

PHIS 606 Cell Physiology: From Molecules to Organisms	3
PHIS 690 Physiology Research Seminar (section 901: departmental)	1
PHIS 692 Special Topics (section 606: seminar for PHIS 606)	1
PHIS 697 Directed Research in Physiology	variable

**Note:** A graduate student enrolled for nine to 15 credits during any semester is classified as full-time. Tuition and fees are charged at a flat rate.

A graduate student enrolled for more than 15 credits during any semester will be charged an overload tuition fee. This fee is charged on a per-credit-hour basis above the full-time tuition rate. See [Student Accounting's website](#) for additional information on graduate tuition.

For additional information see the departmental Web site at [www.vcu.edu/physio](http://www.vcu.edu/physio).

### Pre-medical Graduate Health Sciences (Post-baccalaureate graduate certificate)

#### Admission requirements summary

Pre-medical Graduate Health Sciences (Post-baccalaureate graduate certificate)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	No deadline. Generally applications accepted through June for admission the following fall. Priority given to early applicants.	GRE, MCAT or DAT

The pre-professional (pre-dental, pre-veterinary, pre-physician assistant) health sciences certificate program of the Virginia Commonwealth University School of Medicine, offers a one-year graduate-level training program for individuals seeking to enhance their credentials for admission into professional schools. Students who complete the highly successful certificate program also have a strong foundation to pursue a Master of Science or Ph.D. in one of the health sciences departments in the School of Medicine.

Admission to the certificate program and its administration and benefits are centralized in the School of Medicine, with required and elective courses based in specific departments: Anatomy and Neurobiology, Biochemistry and Molecular Biology, Human and Molecular Genetics, Microbiology and Immunology, Pharmacology and Toxicology, and Physiology and Biophysics.

#### Student learning outcomes

- **Achievement of a threshold competency in the basic health sciences:** The candidate will achieve/surpass expectations of a threshold-level competency in the basic health sciences, particularly in areas related to gaining admission to professional and/or higher level degree programs.
- **MCAT/DAT preparation:** The candidate will be prepared to take and/or retake standardized tests. The candidate will achieve a score that fulfills medical or dental school admission requirements.
- **Preparation for career advancement:** The candidate that meets the threshold competency objective will display an enhanced level of advancement to higher levels of professional and/or advanced degree training.

### Admission requirements

Applicants should hold a baccalaureate degree from an accredited university. Training in chemistry through organic chemistry is required. Admissions are generally drawn from applicants with a GPA greater than 3.0, MCAT more than 24, DAT more than 15, or GRE more than 1100 (verbal plus quantitative) and 4.0 Analytic. International students must display an acceptable level of English proficiency, e.g., more than 250 on the computer-based TOEFL examination (or the equivalent in other TOEFL formats) or more than 600 on the GRE verbal section.

### Degree requirements

Students must complete a minimum of 27 credit hours of course work with a minimum grade point average of 3.2 (on a 4.0 scale) or better. The curriculum is composed of three required courses (15 credits) and 12 elective credits (including for-credit research options) spread over two semesters.

### Curriculum

	Credits
<b>Fall – required courses</b>	
BIOC/MICR 503 Biochemistry, Cell and Molecular Biology	5
PHIS 501 Mammalian Physiology	5
<b>Electives (minimum 5 credit hours)</b>	
ANAT 611 Histology	5
BIOS/STAT 543 Statistical Methods I	3
MICR 505 Immunobiology	3
NEUS 609 Cellular and Molecular Neuroscience	4
NEUS or PHTX or PHIS 690 research seminar	1
PHIS 691 Special Topics in Physiology (current research)	1
<b>Spring – required course</b>	
BIOC/MICR 504 Biochemistry, Cell and Molecular Biology	5
<b>Electives (minimum 7 credit hours)</b>	
ANAT 610 Systems Neuroscience	4
HGEN 502 Advanced Human Genetics	3
MICR 515 Principles of Molecular Microbiology	3
NEUS or PHTX or PHIS 690 research seminar	1
PATH 601 General Pathology (Dentistry)	6
PHIS 604 Cell Physiology: From Molecules to Organisms	4
PHIS 691 Special Topics in Physiology (basic research)	3
PHIS 691 Special Topics in Physiology (current research)	1
PHTX 536 Principles of Pharmacology and Toxicology	5

## Public Health, Master of (M.P.H.)

### Admission requirements summary

Public Health, Master of (M.P.H.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.P.H.	Fall	Applications strongly encouraged by Jan 1	GRE
For additional information:			
See <a href="#">program admission requirements</a> in this Bulletin. Also see <a href="http://www.epidemiology.vcu.edu/education/mph">www.epidemiology.vcu.edu/education/mph</a> for more program details.			

The Master of Public Health program prepares students committed to public health careers in the public, private or nonprofit sectors. Public health works to prevent health problems in populations before these problems occur. The M.P.H. provides a rigorous curriculum to help students develop the analytic and critical reasoning skills to improve population health. The program boasts experiential learning, a highly interactive environment, accessible and approachable faculty and student involvement in important projects. This is achieved through a minimum of 45 credits of formal course work, practicum and seminars in year one; an internship, typically conducted in the summer between the first and second year; a 20-hour community-based learning experience; and a capstone project planned and implemented in the second year of the program. The M.P.H. program can be individualized to meet the varied needs and interests of students. The program offers many electives, allowing students to tailor the program to meet educational objectives, and it is flexible enough to accommodate students who enter the program with various backgrounds and experiences.

### Student learning outcomes

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by the rubric.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skills with respect to grammar, syntax, spelling and use of vocabulary to effectively present information, including the use of figures, tables and citations as measured by the rubric.
- Design of public health programs: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement various public health programs (evaluations, interventions, data collection/analysis efforts) as measured by the rubric.
- Problem-solving skills: The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in public health practice or research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by the rubric.
- Integrated knowledge of public health: The candidate will demonstrate an appropriate level of knowledge of the current elements of public health as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by the rubric.

### Degree requirements for the Master of Public Health

Each candidate shall complete a minimum of 45 credit hours toward the degree. Credits shall be distributed as follows:

	Credits
<b>1. Core courses (15 credit hours)</b>	
BIOS 547 Applied Data Analysis in Public Health I	3
EPID 571 Principles of Epidemiology	3
EPID 604 Principles of Environmental Health	3
HCPR 601 Introduction to Health Policy	3
SBHD 605 Introduction to Social and Behavioral Health	3
<b>2. Program requirements (9 credit hours)</b>	
BIOS 548 Applied Data Analysis in Public Health II	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 593 MPH Practicum	2
<b>3. Electives (minimum 15 credit hours)</b>	
Students take a minimum of 15 credits of elective course work selected according to a student's area(s) of interest in public health.	
<b>4. Integrative program requirements (6 credit hours)</b>	
EPID 693 Public Health Internship	3
EPID 694 MPH Research Project	3

**Public health internship:** The public health internship is a supervised experience designed to expose M.P.H. students to a real-world public health practice setting, requiring them to integrate classroom knowledge and skills in practical applications in a professional environment. Each student intern works with a practice site supervisor who assigns tasks, instructs the student in new skills and evaluates the student's progress. Students work a minimum of 180 hours in a professional public health organization.

**Capstone project:** The culminating work in the M.P.H. program is the capstone project. The project is a practical experience that allows the student to apply what has been learned in the didactic components of the curriculum to a focused

project. The goal is to enhance the student's academic experience through the application of public health concepts and skills in a supervised experience. Students are required to synthesize the literature, apply theory and integrate knowledge gained and principles in situations that approximate some aspects of professional practice. With this mentored experience, students are able to both broaden their skills and hone their proficiency in a specific area of public health. The major product of this culminating experience is expected to vary depending on the educational goals of the student, but could include one of the following:

- Manuscript suitable for publication in a peer-reviewed journal
- Comprehensive disease-related report
- Policy analysis report
- Suite of fact sheets for use by public health professionals
- Health promotion materials (e.g., brochures/posters/fliers, educational video games, website content, etc.) on a specific disease area
- Needs assessment for a specific population
- Development and implementation of target population surveys
- Program evaluation
- Organization and development of content of public health training or informational conferences

At a minimum, the capstone experience will require the integration of multiple major competencies used by a public health professional. In fulfilling the capstone requirement, each candidate must: (a) submit a formal written paper of sufficient depth and rigor and (b) satisfactorily complete an oral or poster presentation of the project chosen as the basis for the written paper at an appropriate venue (e.g., stakeholder meeting, departmental seminar, research forum, etc.) approved by the M.P.H. program director.

## Admission requirements

To be considered for admission, applicants must meet the following requirements.

- Students must hold a bachelor's degree from an accredited institution, with a minimum GPA of 3.0 on a 4.0 scale in all undergraduate and any other graduate study.
- GRE scores must be current (taken within the past five years), with scores at the 75th percentile or greater preferred.
- International students must submit TOEFL or IELTS scores. Minimum TOEFL score is 600 (paper-based), 250 (computer-based) or 100 (Internet-based); IELTS minimum score is 7.0. Test score requirements may be waived for international students who have received a medical degree (M.D.) in the U.S. Contact the program coordinator for more information.

Students must also submit the following materials with their application:

- Letters of recommendation from three individuals who can assess applicant qualifications for graduate school; at least one academic reference required. Most appropriate are letters from past professors or work supervisors.
- Current version of curriculum vitae or resume. Include experience and/or education relevant to study in public health.
- Personal statement following these guidelines:
  - The document should be 1.5 or double-spaced with one-inch margins, in a font no smaller than 11 points. The document should cover the following issues in two to five pages:
    1. Description of the applicant's career goals
    2. Why the applicant wishes to pursue an MPH degree
    3. How an MPH degree will help the applicant achieve her/his career goals
    4. Description of applicant's particular areas of interest in public health (e.g., maternal and child health, cancer epidemiology)
    5. Why VCU's MPH program best fits the student's public health interests
    6. For epidemiology track applicants only: the specific public health area in which you would like to do research
    7. What applicant plans to do in the first few years after graduation

## Combined Doctor of Medicine (M.D.) and Master of Public Health (M.P.H.)

**Note:** Students applying to the joint M.D./M.P.H. program should be accepted to the VCU School of Medicine prior to applying to the M.D./M.P.H. program. MCAT acceptable in lieu of GRE for combined professional/academic degree programs.

The Division of Epidemiology in the Department of Family Medicine and Population Health offers a program for VCU medical students to obtain a Master of Public Health degree in conjunction with their medical training. The M.D./M.P.H. dual-degree program provides an opportunity for medical students who wish to pursue a public health or research career to graduate from medical school trained in both clinical and preventive, population-oriented medicine. Graduates from this program are prepared for positions in preventive medicine, primary care, research, community-based health centers and local health departments. Students complete a set of core and required courses plus nine credits of elective course work and a capstone project.

The objective of the dual-degree M.D./M.P.H. program is to provide high quality and in-depth training in public health to qualified medical students. The five-year program includes four years of medical school and one year of study in the M.P.H. program. During the M.P.H. year students take a minimum of 30 credits of didactic courses. To complete the M.P.H. requirements, students receive 12 credits for successful academic work during the first two years of medical school and take a minimum of one public health elective during the M-IV year. Students may register for the M.P.H. year either prior to entering medical school or after the M-III year and prior to M-IV electives. Enrollment in the dual-degree program requires admission into both the School of Medicine and the Graduate School. Students must successfully complete all required course work to receive both degrees at the completion of the five years.

### Dual M.D.-M.P.H. program curriculum

	Credits
<b>Fall</b>	
BIOS 547 Applied Data Analysis in Public Health I	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 593 MPH Practicum	2
HCPR 601 Introduction to Health Policy	3
SBHD 605 Introduction to Social and Behavioral Health	3
Electives	3
<b>Spring</b>	
BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 604 Principles of Environmental Health	3
EPID 694 MPH Research Project	3
Elective	3

Selected course work completed during the M-I and M-II years of study for application toward the M.D. accounts for 12 credits toward the M.P.H. degree. This includes EPID 571. A public health elective rotation during the M-IV year satisfies the public health internship requirement.

## Combined Doctor of Pharmacy (Pharm.D.) and Master of Public Health (M.P.H.)

The School of Pharmacy and the Division of Epidemiology in the Department of Family Medicine and Population Health in the School of Medicine offer a dual degree program through which students earn both the Pharm.D. and M.P.H. degrees. This dual degree program offers students the opportunity to achieve a doctorate in pharmacy while also learning about research and the importance of population health. This five-year program requires students to spend their fourth year pursuing the M.P.H. degree, after which they transition back to pharmacy for advanced practice experiences. Students are required to take 36 of the 45 credits required for the M.P.H. The M.P.H. field study (internship) requirement will be

satisfied by Pharm.D. special advanced practice experiences in community health during the fifth year of the program.

Students complete two credits of practical skills work during the P3 year, followed by full immersion in the M.P.H. curriculum in the P4 year. The required M.P.H. capstone project will be completed in a community setting during the P5 year; it will involve a comprehensive project that serves the needs of a professional public health organization and typically involves the development of one or more deliverables. Examples include a disease surveillance project, a needs assessment or program evaluation, or development of a comprehensive suite of patient health education or medication safety materials.

### Curriculum

Typical course plan for dual degree:

	Credit
<b>P1 fall semester</b>	
MEDC 527 Basic Pharmaceutical Principles for the Practicing Pharmacist	3
MEDC 533 Pharmacognosy	2
PCEU 507 Pharmaceutics and Biopharmaceutics I	3
PHAR 509 Evidence-based Pharmacy I: Drug Information	1
PHAR 512 Health Promotion and Disease Prevention	2.5
PHAR 523 Foundations I	1
PHAR 525 Communications in Pharmacy Practice	2
PHAR 545 The U.S. Health Care System	2.5
PHAR 547 Managing Professional Patient-centered Practice	1.5
PHAR 771 Student Pharmacist Professionalism	continues
	18.5
<b>P1 spring semester</b>	
MEDC 543 Clinical Chemistry for the Pharmacist	2
MEDC 553 Clinical Therapeutics Module I: Introduction to Medicinal Chemistry	1
PCEU 508 Pharmacokinetics	2
PCEU 509 Pharmaceutics and Biopharmaceutics II	2.5
PHAR 513 Contemporary Pharmacy Practice	3.5
PHAR 524 Foundations II	1
PHAR 529 Clinical Therapeutics Module III: Introduction to Special Populations	1
PHAR 530 Introductory Pharmacy Practice Experience: Community Practice	4
PHAR 540 Self-Care and Alternative and Complementary Treatments	3
PHAR 771 Student Pharmacist Professionalism	continues
PHTX 606 Clinical Therapeutics II: Introduction to Pharmacology (Pharmacy)	1
	21
<b>P2 fall semester</b>	
PHAR 534 Foundations III	1
PHAR 543 Scholarship I	continues
PHAR 544 Clinical Therapeutics Module IV: Cardiovascular	4.5
PHAR 549 Biotechnology, Pharmacogenomics and Pharmacogenetics	2
PHAR 555 Clinical Therapeutics Module V: Endocrinology	2.5
PHAR 556 Clinical Therapeutics Module VI: Neurology I	3
PHAR 565 Evidence-based Pharmacy II: Research Methods and Statistics	2.5
PHAR 566 Evidence-based Pharmacy III: Drug Literature Evaluation	2
PHAR 567 Pharmacy Informatics	1.5
PHAR 771 Student Pharmacist Professionalism	continues
	19
<b>P2 spring semester</b>	
PCEU 615 Applied Pharmacokinetics	2
PHAR 532 Introductory Pharmacy Practice Experience: Hospital Practice	3
PHAR 535 Foundations IV	1
PHAR 543 Scholarship I	1
PHAR 601 Clinical Therapeutics Module VII: Neurology II	1
PHAR 602 Clinical Therapeutics Module VIII: Psychiatry	3

PHAR 603 Clinical Therapeutics Module IX: Respiratory/Immunology	3
PHAR 621 Pharmacoeconomics	2
PHAR 622 Epidemiology and Pharmacy Practice	2
PHAR 623 Patient Medication Safety	2
PHAR 771 Student Pharmacist Professionalism	continues
	20
<b>P3 fall semester</b>	
EPID 593 MPH Practicum*	1-2
PHAR 533 Introductory Pharmacy Practice Experience: Service-learning	0.5
PHAR 550 Scholarship III	continues
PHAR 604 Clinical Therapeutics Module X: Infectious Diseases	4.5
PHAR 605 Clinical Therapeutics Module XI: Hematology/Oncology	2.5
PHAR 606 Clinical Therapeutics Module XII: Nephrology/Urology	2.5
PHAR 607 Clinical Therapeutics Module XIV: Dermatology, EENT	1.5
PHAR 640 Foundations V	1
PHAR 660 Pharmacy Practice Management I: Community Practice	4
PHAR 771 Student Pharmacist Professionalism	continues
*A total of two credits of the practical experience must be completed.	
	17.5-18.5
<b>P3 spring semester</b>	
EPID 593 MPH Practicum*	1-2
PHAR 550 Scholarship III	2
PHAR 618 Clinical Therapeutics Module XIII: Gastrointestinal/Nutrition	2.5
PHAR 619 Clinical Therapeutics Module XV: Women's Health/Bone and Joint	2.5
PHAR 620 Clinical Therapeutics Module XVI: Critical Care/Toxicology	1.5
PHAR 645 Foundations VI	1
PHAR 661 Pharmacy Practice Management II: Institutional Practice	2
PHAR 721 Clinical Therapeutics Module XVII: Special Populations	1
PHAR 724 Pharmacy Law	2.5
PHAR 771 Student Pharmacist Professionalism	continues
Pharmacy electives	2-3
*A total of two credits of the practical experience must be completed.	
	18-20
<b>P4 fall semester</b>	
BIOS 547 Applied Data Analysis in Public Health I	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 571 Principles of Epidemiology	3
HCPR 601 Introduction to Health Policy	3
SBHD 605 Introduction to Social and Behavioral Health	3
Public health elective	3
	16.5
<b>P4 spring semester</b>	
BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 604 Principles of Environmental Health	3
Public health electives	6
	14.5
<b>P5 year</b>	
EPID 694 MPH Research Project (capstone)	3
PHAR 760 Acute Care Pharmacy Practice I	5
PHAR 761 Advanced Hospital Pharmacy Practice	5
PHAR 762 Geriatrics Pharmacy Practice	5
PHAR 763 Ambulatory Care Pharmacy Practice	5



PHAR 765 Elective I**	5
PHAR 766 Elective II**	5
PHAR 768 Advanced Community Pharmacy Practice	5
PHAR 771 Student Pharmacist Professionalism	1
PHAR 773 Acute Care Pharmacy Practice II	5

\*\*At least one of these electives must be in an approved public health setting.

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### Combined Master of Social Work (M.S.W.) and Master of Public Health (M.P.H.)

See the individual program pages for admission requirements specific to the separate degrees.

Through a collaborative program between the VCU School of Social Work and the Division of Epidemiology in the Department of Family Medicine and Population Health in the School of Medicine, students complete a three-year full-time program of study, including summer course work, to obtain the Master of Social Work and Master of Public Health degrees. The purpose of this dual-degree program is to prepare graduates to work with individuals, families, groups, communities and/or organizations; advocate for social, health care and economic justice in a diverse and multicultural society; and promote physical and mental health across the life course.

Prospective students are required to apply separately to both programs through the Graduate School and must meet both sets of admission requirements. (See [www.pubapps.vcu.edu/bulletins/prog\\_search/?did=20039&iid=31083](http://www.pubapps.vcu.edu/bulletins/prog_search/?did=20039&iid=31083) for M.P.H. program requirements; [www.pubapps.vcu.edu/Bulletins/prog\\_search/?did=20077&iid=30474](http://www.pubapps.vcu.edu/Bulletins/prog_search/?did=20077&iid=30474) for M.S.W. program requirements.) Once admitted to both programs, the student is assigned an adviser from each to develop a plan of study, typically starting with the M.S.W. course work. It is preferable that students apply to both programs at the same time so that the structured dual-degree curriculum can be optimally planned. Students in one program may also apply to the second program during the first year of study.

Students are required to complete a minimum of 45 M.S.W. credits and a minimum of 33 M.P.H. credits, for a total of 78 semester credit hours. In the M.P.H. program, this includes 24 credit hours of core and required courses, a minimum six credit hours of elective courses and a minimum of three credit hours of a capstone project that examines a relevant public health topic. During the third and last year of study, the dual-degree students are placed in internships through the School of Social Work that focus on public health; the internship placement is approved by both the M.P.H. program director and the director of social work field instruction. With adviser approval, the student may develop a capstone project based on work in this public health/social work placement.

For additional information, see [www.epidemiology.vcu.edu/education/mph/dual.html](http://www.epidemiology.vcu.edu/education/mph/dual.html).

#### Curriculum

##### Year 1, fall

	Credits
SLWK 601 Human Behavior in the Social Environment I	3
SLWK 602 Policy, Community and Organizational Practice I	3
SLWK 603 Social Work and Social Justice	3
SLWK 604 Social Work Practice with Individuals, Families and Groups I	3
SLWK 693 Foundation Field Instruction I	3

##### Year 1, spring

SLWK 605 Social Work Practice with Individuals, Families and Groups II	3
SLWK 606 Policy, Community and Organizational Practice II	3
SLWK 609 Foundations of Research in Social Work Practice	3
SLWK 610 Human Behavior in the Social Environment II	3
SLWK 694 Foundation Field Instruction II	3

##### Year 1, summer

SLWK 703 Mental, Emotional and Behavioral Disorders (or fall, year 2)	3
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##### Year 2, fall

BIOS 547 Applied Data Analysis in Public Health I	3
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EPID 547 Applied Data Analysis Lab I	1.5
EPID 571 Principles of Epidemiology	3
EPID 593 MPH Practicum	1
SBHD 605 Introduction to Social and Behavioral Health	3
SLWK 703 Mental, Emotional and Behavioral Disorders or	3
SLWK 711 Strategies for Social Work Planning and Administrative Practice	

##### Year 2, spring

BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 593 MPH Practicum	1
EPID 604 Principles of Environmental Health	3
SLWK 704 Clinical Social Work Practice I or	3
SLWK 712 Social Work Planning and Administration Practice I	
EPID elective	3

##### Year 2, summer

EPID elective (or fall, year 3)	3
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##### Year 3, fall

EPID 694 MPH Research Project (degree requires a total of 3 credits)	1-3
HCPR 601 Introduction to Health Policy	3
SLWK 704 Clinical Social Work Practice I or	3
SLWK 712 Social Work Planning and Administrative Practice I	
SLWK 793 Concentration Field Instruction	3
EPID elective	3

##### Year 3, spring

EPID 694 MPH Research Project (if needed to total 3 credits)	1-3
SLWK 705 Clinical Social Work Practice II or	3
SLWK 713 Social Work Planning and Administrative Practice I	
SLWK 794 Concentration Field Instruction	3

(Students choose either SLWK 703, 704 and 705 for the clinical concentration or SLWK 711, 712 and 713 for the administration, planning and policy practice concentration; SLWK 793-794 is required for both concentrations.)

### Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Rehabilitation and Movement Science, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 9 will be given priority consideration	GRE

The Ph.D. in Rehabilitation and Movement Science is an interdisciplinary degree program developed through a collaborative partnership of the departments of Health and Human Performance, Physical Therapy, and Physical Medicine and Rehabilitation. The mission of this collaborative degree program is to prepare applied scientists capable of approaching multifaceted health care, preventive medicine and rehabilitation initiatives from an integrative rather than competitive perspective, and to prepare graduates to assume leadership positions in higher education teaching, research and management within rehabilitation and movement science.

There are two program tracks: exercise physiology and neuromusculoskeletal dynamics. The exercise physiology track prepares individuals to teach, conduct research and direct external funding initiatives in the area of cardiopulmonary rehabilitation and physiology, particularly in areas associated with metabolic and chronic disease states. The neuromusculoskeletal dynamics track prepares individuals for teaching, research and clinical initiatives associated with the identification and rehabilitation of movement disorders.

**Student learning outcomes****Teaching effectiveness**

Students will demonstrate teaching effectiveness in the classroom, clinical environment or both.

**Dissemination of research**

Students will disseminate research findings at an appropriate regional, national or international conference.

**Research independence**

Students will demonstrate the ability to independently collect research data, analyze research data and synthesize conclusions from research data.

**Admission requirements**

Admission decisions are made by an admissions committee comprised of faculty members from each of the major collaborating departments: Exercise Science, Physical Therapy and Physical Medicine and Rehabilitation. Applicants must have completed at least one of the following: a master's degree in a related area, 30 hours of postbaccalaureate work (e.g. course work at 500 level or greater), or a first professional degree program. Admission decisions are made only on the basis of a completed application packet.

Applicants for admission to the program must complete an admission packet that includes the VCU Application for Graduate Study as well as supplementary program materials. Admission packets are available from:

**Graduate School**

Virginia Commonwealth University  
Moseley House  
P.O. Box 843051  
Richmond, VA 23284-3051  
(804) 828-6916  
[www.graduate.vcu.edu](http://www.graduate.vcu.edu)

or

**Office of Doctoral Studies**

Virginia Commonwealth University  
P.O. Box 842020  
Richmond, VA 23284-2020  
(804) 827-2657  
[www.soe.vcu.edu](http://www.soe.vcu.edu)

The entrance requirements fall into the following three categories. All criteria must be completed for consideration for admission.

**Academic criteria**

- A completed VCU Graduate School Application.
- An official and up-to-date copy of all transcripts of the applicant's undergraduate and graduate record indicating that the applicant has completed the minimum required prerequisite course work.
- Official and current scores (within the past five years) for the general test of the GRE. Older scores may be submitted and consideration will be based upon the time elapsed since last formal schooling, occupation success and research ability.
- Priority for admission will be given to the applicants who have attained at least 3.5 in all graduate work attempted and a combined verbal and quantitative score on the GRE of a minimum of 1,000. If the TOEFL is required, a minimum score of 100.

**External criteria**

- A professional resume indicating an applicant's educational and career experience as well as evidence of research potential.
- Completed reference forms from three individuals capable of evaluating the applicant's academic and research potential.

**Written expression**

- A personal statement in which the applicant discusses his or her personal career goals and the manner in which this doctoral program would enhance those goals.

Applicants being considered for admission must complete an interview with a Ph.D. admissions committee representative and/or research faculty member with whom the student would like to work.

The applicant is encouraged to check the status of his or her application packet to ensure that all components of the packet have been received. Inquiries should be made to the Office of Doctoral Studies. The Admissions Committee will not review incomplete packets.

**Transfer credit**

Students in the program may transfer up to nine credit hours into the program, including courses taken at VCU prior to being admitted to the program. Note that credits earned for one degree cannot be applied to another degree.

**Curriculum**

The Ph.D. in Rehabilitation and Movement Science will require a minimum of 38 credit hours of course work and 12 credit hours of dissertation research. Students will be required to complete:

- 12 credit hours of research core courses comprised of a research design class, two classes in statistical application and an elective in the area of research design or statistics.
- 18 credit hours in a concentration comprised of a focus on course work in a specific discipline formulated with the major adviser and approved by the Admissions Committee of the degree program.
- Three credit hours comprised of laboratory rotations in a minimum of two laboratories within the Rehabilitation and Movement Science program; each credit hour requires a minimum of 50 contact hours in the laboratory selected.
- Five credit hours minimum of professional development comprised of an interdisciplinary research/journal club seminar (0.5 credit hour per semester), a teaching practicum (one credit hour) and a presentation delivered at a regional, national or international conference of a related discipline (one credit hour).
- 12 credit hours of dissertation research comprised of a focused line of research over a three-to-four-year period of doctoral work.

Required research courses for the program (nine credit hours) – both tracks:

	Credits
STAT 543 Statistical Methods I	3
STAT 544 Statistical Methods II	3
ALHP 761 Health Related Sciences Research Design (or other approved course in research design)	3
Approved research design alternatives:	
HADM 761 Health Services Research Methods I	3
SOCY 626 Applications of Advanced Research Methods	3
EDUS 710 Educational Research Design	3

Elective research courses for the program (three credit hours) – both tracks:

	Credits
BIOS 531 Clinical Epidemiology	3
BIOS 553 Linear Regression	3
BIOS 554 Analysis of Variance	3
BIOS 571 Clinical Trials	3
BIOS 572 Statistical Analysis of Biomedical Data	3
BIOS 655 Quantitative Epidemiology	3
ALHP 716 Grant Writing and Project Management in Health Related Sciences (or elective research course in consultation with adviser)	3

Required concentration courses for the Ph.D. program tracks

Credits

**Exercise physiology track**

HEMS 701 Advanced Exercise Physiology I	3
HEMS 702 Advanced Exercise Physiology II	3
PHIS 501 Mammalian Physiology	5
PHIS 512 Cardiovascular Exercise Physiology	3
PHIS 612 Cardiovascular Physiology	3
REMS/HEMS 610 Laboratory Techniques in Rehabilitation and Movement Science	3

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**Neuromusculoskeletal dynamics track**

(select 18 credits from the following):

HEMS 611 Biomechanics of Human Motion	3
REMS/HEMS 660 Neuromuscular Performance	3
REMS 665 Instrumentation in Motion Analysis	3
REMS/HEMS 692 Independent Study or elective course	3
PHTY 605 Foundations of Pathokinesiology	3
PHTY 606 Therapeutic Kinesiology	3
PHTY/REMS 608 Advanced Musculoskeletal Sciences	3
PHTY/REMS 612 Advanced Biomechanics	3

**Laboratory rotations** (three credit hours) – both tracks:

REMS 710 Research Techniques in Rehabilitation and Movement Science	1-3
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**Professional development core** (five credit hours minimum) – both tracks

REMS 690 Research Seminar in Rehabilitation and Movement Science	1
REMS 793 Teaching Practicum in Higher Education	1
REMS 794 Research Presentation Seminar	3-4

**Research in rehabilitation and movement science** (12 credit hours) – both tracks

REMS 798 Research in Rehabilitation and Movement Science	12
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**Advisory committee****Adviser**

Incoming students will identify a faculty member in the program with whom they would like to pursue their academic program and research endeavors. Every effort will be made to accommodate the student's first choice of a faculty adviser. If the student is unsure of a research interest and adviser selection, the Admissions Committee will assign an adviser. Within the first two semesters of attendance, a permanent adviser should be identified. The adviser, together with the student, will develop a plan of study for the student's didactic and scholarly program and will be responsible for guiding the student's academic progress such that the adviser will supervise the student's research work and dissertation preparation.

**Advisory committee**

The student, in consultation with the adviser, will identify faculty members to serve on the advisory committee. The committee shall be appointed no later than the end of the spring semester following matriculation into the program. The student's advisory committee shall be comprised of five faculty members to include the adviser, two members from the rehabilitation and movement science faculty and two faculty members from other related departments. The student's adviser, who is active in the field of research the student has selected, will chair the committee.

**Comprehensive examination**

Once core courses are successfully completed, students must pass written and oral comprehensive examinations before transitioning to candidacy. These examinations will test students on their basic knowledge of rehabilitation and movement science principles (primarily in their chosen track) and research methods as obtained through core, research and elective courses of the curriculum. The student must demonstrate a firm grasp of the material and the potential to become an independent researcher.

The written exam will be given to students during their second spring semester in the program. The written exam will consist of an area paper pertinent to the student's area of interest. The student's adviser and advisory committee must approve the topic and an outline of the area paper. The student's adviser is responsible for grading the area paper. If a student receives a less than satisfactory grade on the area paper, he/she will be afforded the opportunity to make appropriate revisions. Students will only be allowed to revise the area paper once. The area paper should be a minimum of 15 double-spaced pages in 12-point font. The area paper must be in a form suitable for submission for publication to a journal whose content addresses topics consistent with the area paper. The student's adviser and advisory committee must approve the journal selection and manuscript prior to submission. A passing grade on the written exam is not contingent upon the manuscript being accepted for publication.

Following acceptance of the area paper, the student will write a research proposal. The structure of the proposal will follow federal grant submission guidelines such as those specified by the National Institutes of Health or the Centers for Disease Control. The analytical research proposal must be submitted to and approved by the student's advisory committee prior to the oral examination.

The oral exam should be conducted within three to six months of successful completion of the written exam with the goal of proceeding to candidacy by the end of the fall semester of the student's third year. The oral exam will be based on, but not primarily limited to, the student's proposed analytical research project. The student must receive a satisfactory grade from each committee member to pass the oral exam. The student may proceed to candidacy and begin the research outline in the proposal once successful completion of the oral examination is achieved.

**Exit requirements****Dissertation defense**

Upon completion of all required course work and the research project, the student must prepare a dissertation to describe the research. A dissertation manual is available for download from the VCU Web site. Students are highly encouraged to become familiar with this manual and use it as a guide for preparation of their dissertation. All committee members must approve the written dissertation and the student must orally defend this dissertation in a publicly advertised seminar prior to graduation.

Students are expected to meet all university graduate school requirements regarding minimal GPA and limitation on credits achieved with a grade of "C" or below.

**Time to degree**

The doctoral degree must be obtained within seven years of matriculation. It is expected that full-time students will satisfy all requirements within four to five years. Part-time students may take the full seven years to complete all courses and the research project.

**Social and Behavioral Health, Doctor of Philosophy (Ph.D.)****Admission requirements summary**

Social and Behavioral Health, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan 4 given priority consideration	GRE
<b>Special requirements:</b>			
M.P.H. or equivalent M.A. or M.S. degree			

The Ph.D. program in social and behavioral health, the only one of its kind in Virginia, prepares students to conduct theoretically based research and

interventions on the social and behavioral determinants of health and disease. The program includes a minimum of 50 required credit hours. Course work in research methods and the social and behavioral sciences includes nine credits of applied research internship. Students then work under the supervision of an experienced faculty adviser to conduct original research for a dissertation for nine additional credit hours.

#### Student learning outcomes

- Analytical thinking
  - Students will demonstrate an appropriate level of ability to interpret information relevant to social and behavioral science, to connect rationales to procedures and evidence to findings, to draw reasonable conclusions, and to generate and evaluate alternate explanations.
- Integrated knowledge of social and behavioral science
  - Students will demonstrate an appropriate level of knowledge of the current elements of the social and behavioral sciences as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique.
- Oral communication skills
  - Students will demonstrate the achievement of an appropriate level of skill in the oral communication of social and behavioral science subject matter with respect to content, organization, logical flow, presentation, use of language and incorporation of visual aids, in formal and collaborative communication.
- Study design
  - Students will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify and/or create and implement study protocols and to design and develop studies.
- Written communication skills
  - Students will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling, vocabulary and use of figures, tables, and citations to effectively present social and behavioral science information.

#### Sample curriculum

<b>Fall 1</b>	<b>Credits</b>
BIOS/STAT 543 Statistical Methods I	3
OVPR 603 Responsible Conduct of Research	1
SBHD 630 Theoretical Foundations of Social and Behavioral Health	3
SBHD 690 Departmental Seminar	1
SBHD elective (such as 631, 632 or 692)	3
<b>Total</b>	<b>11</b>
 <b>Spring 1</b>	
BIOS/STAT 544 Statistical Methods II	3
SBHD 690 Departmental Seminar	1
SBHD or other electives	6
<b>Total</b>	<b>10</b>
 <b>Fall 2</b>	
SBHD 633 Structural Equation Modeling or other advanced quantitative course	3
SBHD 690 Departmental Seminar	1
SBHD 692 Special Topics (qualitative methods)	3
SBHD or other electives	3
<b>Total</b>	<b>10</b>
 <b>Spring 2</b>	
SBHD 690 Departmental Seminar	1

SBHD 693 SBHD Internship	9
<b>Total</b>	<b>10</b>
 <b>Fall 3 – Spring 4</b>	
SBHD 697 Directed Research in Social and Behavioral Health	9
<b>Total</b>	<b>9</b>



**VCU**

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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Nursing**



The School of Nursing originated in 1893 as part of the University College of Medicine. Since then, the educational program has evolved from a basic diploma program to multiple programs at the baccalaureate-, master's- and doctoral-degree levels. Additionally, the School of Nursing offers post-master's certificate programs. The School of Nursing takes pride in its long history of service to the profession of nursing and continues to be a leader in nursing education in Virginia.

## Administration

1100 East Leigh Street  
P.O. Box 980567  
Richmond, Virginia 23298-0567  
(804) 828-0724  
Fax: (804) 828-7743  
[www.nursing.vcu.edu](http://www.nursing.vcu.edu)

**Jean Giddens**  
Dean

**Ann B. Hamric**  
Associate Dean of Academic Programs

**Marie S. Gardner**  
Assistant Dean for Administration and Resources, Research Support

**Susan L. Lipp**  
Assistant Dean for Enrollment and Student Services

**Suzanne McGinnis**  
Director of Administrative and Academic Technology

**James Parrish**  
Director of Development

**Sandra Voll**  
Director of Clinical Learning Center

## Accreditation

The baccalaureate and master's degree programs in nursing, as well as the post-master's certificate program, are accredited by the National League for Nursing Accrediting Commission, 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326. The undergraduate program is approved by the Virginia Board of Nursing, and graduates are eligible to take the NCLEX RN registered nurse licensing examination.

## Programs

The School of Nursing offers Bachelor of Science, Master of Science, Post-Master's Certificate and Doctor of Philosophy programs. Curricula and admissions information pertaining to all of these programs is available on this Web site and may be accessed using the Program search feature at the top of this page.

Further information may be obtained by visiting the School of Nursing Web site at [www.nursing.vcu.edu](http://www.nursing.vcu.edu) or by writing to Virginia Commonwealth University, School of Nursing, Office of Enrollment and Student Services, P.O. Box 980567, Richmond, VA 23298-0567.

## Facilities and resources

The faculty and administrative offices of the school are housed at 1100 E. Leigh St. Additionally, this building has a nursing clinical resource laboratory, computer laboratory and classrooms equipped with a full range of audiovisual equipment. Both graduate and undergraduate courses are also scheduled in other classrooms on campus.

The clinical laboratories for nursing courses are conducted at the VCU Medical Center and in numerous other urban and rural hospitals and health agencies in the area, including community medical centers and state hospitals, public health services, private clinics and offices, and federal and state centers and departments. These facilities provide generalized and specialized inpatient and ambulatory services. Students are given a range of diverse experiences in hospital and community-oriented nursing. Selection of specific facilities for student experience is based upon curricular and advanced-practice certification requirements, the educational needs of the individual student and the services available.

## School honors, scholarships and awards

Applications for financial assistance must be filed for all forms of financial assistance, including traineeships. A Free Application for Federal Student Aid may be obtained from the Office of Financial Aid, Virginia Commonwealth University, Richmond, VA 23298-0244.

Limited financial assistance is available through traineeships and scholarships administered by the School of Nursing. An application for financial assistance from School of Nursing sources will be made available to applicants and enrolled students. The school form must be completed in addition to the FAFSA submitted to the Office of Financial Aid.

## Departments

### Department of Adult Health and Nursing Systems

**D. Patricia Gray**  
Associate Professor and Department Chair

### Department of Family and Community Health Nursing

**Debra E. Lyon**  
Associate Professor and Department Chair

## Nursing courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to nursing ([NURS](#)) courses.

## Graduate information

### Nondegree-seeking students

Students who have not been admitted to a graduate program in nursing may be admitted to individual courses. Permission to register for courses is granted at the discretion of the School of Nursing. Only six credits earned as a nondegree-seeking student can be applied to the master's degree. Only three credits may be earned by post-master's students prior to admission.

### Enrollment

Students may begin study during summer and fall semesters. Students will have an academic adviser appointed and will follow the standard program of study. Once admitted, students are expected to abide by enrollment policies of the Graduate School.

### Transfer credit

Students may take 12 of the required credits for the respective program at another institution and transfer them to VCU. The School of Nursing will determine the acceptability of courses for transfer credit. Transcript evidence and description of courses are required for review of transfer credit.

## Nursing, Certificate in (Post-master's certificate)

### Admission requirements summary

#### Nursing, Certificate in (Post-master's certificate)

(For master's prepared nurses who need courses for additional certification for advanced nursing practice)

Indicate specialization

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall preferred	Applications received by Mar 15 given priority consideration	

Ranked in the top 10 percent of nursing graduate programs by U.S. News and World Report, the master's degree program at VCU School of Nursing provides a world-class learning experience that prepares nurses to become leaders in advanced nursing practice. The master's program provides nurses with a solid foundation in the specialized knowledge and advanced practice skills that are needed to care for diverse patient populations with complex health problems across the health-illness continuum. In addition, students partner with

interprofessional groups to develop expertise in team-based, patient-centered health care, while also gaining valuable leadership and collaborative skills. The curriculum at VCU prepares graduates who can engage in transformative nursing, not only as leaders who are committed to nursing excellence but also as practitioners who are committed to the health and well-being of the patients they serve.

VCU School of Nursing offers both direct and indirect patient care concentrations. Our direct patient care concentrations are focused on two roles: nurse practitioner and clinical nurse specialist. Nurse practitioner concentrations include family, women's health\*, pediatrics\*, adult-gerontology primary care\*, adult-gerontology acute care and psychiatric-mental health. Our clinical nurse specialist concentration is adult-gerontology\*. One indirect patient care concentration is offered in nursing administration and leadership.

\*Note: Admissions to these concentrations have been suspended for the 2013-14 academic year: adult-gerontology primary care nurse practitioner, adult-gerontology clinical nurse specialist, pediatric nurse practitioner, women's health nurse practitioner.

Applications will be reviewed on an individual basis and course work will be determined based on previous educational preparation. Differences between course work completed in a previous degree and what is required for the intended post-master's track will be determined based on individual track and/or certification requirements. Certification requirements vary among certifying bodies. It is the school's intention to prepare the student to apply for certification.

#### Student learning outcomes

Guided by the American Association of Colleges of Nursing's "Essentials of Master's Education for Advanced Practice Nursing," the faculty prepare students to practice and lead in a rapidly evolving health care environment. The graduate of the VCU School of Nursing:

- Possesses knowledge in the advanced practice of nursing as a nurse practitioner, clinical nurse specialist, nurse administrator, nurse educator or clinical nurse leader.
- Employs knowledge of social, cultural, economic and organizational that impact practice in health care delivery systems.
- Demonstrates beginning competency in the advanced practice of nursing.
- Synthesizes current research and other evidence as a basis for advanced practice.
- Evaluates one's own performance in the advanced practice of nursing based on current standards.
- Contributes to the discipline of nursing through a systematic program of practice, education, scholarship, leadership and participation in professional organizations.
- Communicates effectively in the advanced practice of nursing.
- Acts in accordance with the laws, regulations and standards that govern practice.
- Uses technology applicable to the practice arena in a competent manner.
- Respects the inherent dignity of every human being.
- Provides culturally appropriate care to diverse individuals and groups.
- Seeks to improve the quality of health for all citizens.

#### Admission requirements

Requirements for admission to the post-master's certificate program include:

- A master's degree or doctoral degree in nursing from an NLNAC- or CCNE-accredited school or an international equivalent.
- A current unrestricted RN license in a state, the District of Columbia or a U.S. possession or territory (professional liability insurance is recommended).
- Three references from the applicant's graduate program and from employers/supervisors.
- A personal interview may be requested.
- A complete graduate application filed with the Graduate School. Admission forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

#### Graduation requirements

To be a candidate for the post-master's certificate, students must be recommended by the faculty and must:

- meet academic requirements of the Graduate School,
- complete all requirements for the prescribed curriculum within five calendar years of the first registration for work to be credited toward the certificate,
- earn at least a "B" or pass grade in all nursing courses,
- earn at least a cumulative grade-point average of 3.0 on a 4.0 scale in all work presented for graduation and
- conform to School of Nursing policies in respect to pass/fail grading for course work.

#### Academic requirements

- A student may not proceed in the program with a GPA of less than 3.0 on a 4.0 scale or with a grade of less than "B" in any nursing course. Students earning less than "C" are referred to policy 6.4.1 in the School of Nursing Policy and Information Handbook on the Web: <http://www.nursing.vcu.edu/faculty/policy.htm>.
- An adviser for each student is appointed by the department chair. That adviser will assist the student in program and career planning, registration procedures, and certification for graduation.
- The departments of Adult Health Nursing, Integrative Systems and Maternal Child Health Nursing will assist respective students with advanced practice certification.

#### Curriculum design

The School of Nursing recognizes that applicants to the post-master's certificate program bring a background of a master's or doctoral degree in nursing or are currently enrolled in a doctoral program. The curriculum for each concentration builds upon the knowledge gained in a previous master's degree including advanced practice, research and theory, and nursing specialty content. The post-master's certificate program allows students to enroll in an advanced practice specialty to pursue additional competencies or a certificate. The curriculum in the post-master's certificate program meets the standards of specialty organizations and the requirements for certification as an advanced practice nurse (nurse practitioner, clinical nurse specialist or other advanced practice roles).

When applicants are admitted, an evaluation of the transcript is conducted. Each required course in the relevant concentration is compared to the applicant's transcript and a judgment is made whether those course objectives have been fully or partially completed in prior master's or doctoral work. Prior courses that are accepted as evidence of full or partial completion are listed on the program plan. The curriculum plan varies according to clinical focus. This plan will be signed by the student, the student's adviser and the associate dean for the master's program before the student actually enrolls in the program. Thus, the program of study is agreed upon in advance.

#### Adult-gerontology

When an individual is admitted to the post-master's certificate program in nursing, an evaluation of the transcript is completed. Each required course in the relevant concentration is compared to the entering student's transcript. Upon admission, the school determines whether those course objectives have been fully or partially met in prior master's or doctoral work. Prior courses that are accepted as evidence of full or partial completion are listed on the individual plan of study. This plan will be signed by the entering student and the adviser before the individual actually enrolls. Thus, the plan of study is agreed upon in advance.

Students in nurse practitioner certification concentrations are required to have completed advanced health assessment, pharmacotherapeutics and pathophysiology courses.

The post-master's certificate adult-gerontology concentration includes three roles: adult-gerontology primary care nurse practitioner, adult-gerontology acute care nurse practitioner and adult-gerontology clinical nurse specialist.

The adult-gerontology primary care nurse practitioner role focuses on the provision of advanced independent nursing care integrated with delegated medical diagnostic and management activities. The adult-gerontology primary care nurse

practitioner has a practice located in an ambulatory care setting and focuses on health promotion, risk reduction and evidence-based primary care to individual patients.

The adult-gerontology acute care nurse practitioner generally works in an acute care setting, often within a multidisciplinary team focused on the provision of evidence-based care to adults who are acutely ill. The sphere of influence of the nurse practitioner is that of the patient.

The adult-gerontology clinical nurse specialist is a clinical expert in a specialized area of nursing practice who focuses on the diagnosis and treatment of illness as well as promotion of health and well-being for adults across the lifespan. The adult-gerontology clinical nurse specialist is responsible for ensuring excellence in the delivery of nursing care to patients within that population. This includes consultation with individual patients as well as with nurses who provide care to the patient in an acute care setting, and overall systems management to facilitate care. The site of practice is determined by the location of the patient population of interest — it may be in a primary care setting, for example, people undergoing chemotherapy. The sphere of influence of the clinical nurse specialist is threefold: patient, nursing personnel and systems/organizations.

Below are sample curricula.

**Adult-gerontology acute care nurse practitioner specialty certificate courses**

	Credits
NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 612 Acute Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	2
NURS 661 Adult-Gerontology Primary Care	4
NURS 662 Common Problems in Adult-Gerontology Critical Care	3
NURS 663 Adult-Gerontology Acute Care	3
NURS 678 Adult-Gerontology Acute Care Practicum I	3
NURS 669 Adult-Gerontology Acute Care Practicum II	5
NURS 679 Adult-Gerontology Acute Care Practicum III	4

**Adult-gerontology primary care nurse practitioner specialty certificate courses**

Admission to this concentration has been suspended for 2013-14.

NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	2
NURS 661 Adult-Gerontology Primary Care	4
NURS 663 Adult-Gerontology Acute Care	3
NURS 676 Adult-Gerontology Primary Care Practicum I	3
NURS 675 Adult-Gerontology Primary Care Practicum II	4
NURS 677 Adult-Gerontology Primary Care Practicum III	4
NURS 682 Women's Practicum I	1

**Adult-gerontology clinical nurse specialist specialty certificate courses**

Admission to this concentration has been suspended for 2013-14.

NURS 625 Clinical Nurse Specialist: Adult Acute Practicum	7
NURS 626 Clinical Nurse Specialist: Advanced Adult Acute Practicum	5
NURS 662 Common Problems in Adult-Gerontology Critical Care	3
NURS 663 Adult-Gerontology Acute Care	3
NURS 686 Emerging Clinical Issues in Patient Management	3

NURS 687 Management Systems and Health Care Outcomes

4

**Family nurse practitioner**

For registered nurses interested in providing primary health care to patients of all ages, the family nurse practitioner program offers a flexible and rewarding career path. First launched as a certificate program in 1974, the VCU School of Nursing FNP concentration within the Post-master's Certificate in Nursing program prepares you to assess, diagnose and manage common health problems as well as maximize the health and well-being of individuals and families across the life span. Using comprehensive physical and psychosocial assessments, diagnostic reasoning, advanced-practice skills and procedures, and evidence-based treatment strategies, VCU School of Nursing graduates with the FNP concentration are prepared to provide direct care to individuals and families in a variety of primary care settings.

Students who successfully complete the FNP concentration within the post-master's certificate program are eligible to apply for certification as a family nurse practitioner by both national certifying bodies: the American Nurses Credentialing Center and the American Academy of Nurse Practitioners.

Graduate courses in health assessment, pathophysiology and pharmacology must be completed prior to or concurrent with enrollment in the concentration area courses.

Below is a sample curriculum:

<b>Family nurse practitioner</b>	Credits
NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	3
NURS 634 Advanced Practice: The Childbearing Woman	2
NURS 647 Health Promotion and Disease Prevention in Children	3
NURS 648 Management of Acute Problems of Children and Adolescents	3
NURS 660 Health Promotion and Disease Prevention in Adults	3
NURS 661 Adult-Gerontology Primary Care	4
NURS 670 Primary Care of Families	3
NURS 672 Child Practicum I	3
NURS 676 Adult-Gerontology Primary Care Practicum I	3
NURS 682 Women's Practicum I	3
NURS 684 Family Practicum	4

**Nurse educator**

Admissions to this concentration are suspended until further notice.

Graduate courses in health assessment, pathophysiology and pharmacology must be completed prior to or concurrent with enrollment in the concentration area courses.

The following plans are examples of curricula:

NURS 512 Advanced Nursing Science	3
NURS 602 Contexts and Curriculum of Nursing Education	3
NURS 603 Classroom Teaching Strategies	3
NURS 604 Clinical Teaching Strategies	4
University courses*	6

Total 19

\* Choose from the following list of university courses:

ADLT 601 Adult Learning and Development  
 ADLT/EDUS 632 The Changing Face of Higher Education  
 ADMS 701 Education Policy Research  
 ADMS 702 Educational Administration: Contemporary Theory and Practice  
 ADMS 707 The Politics of Education  
 ALHP 712 Curriculum and Communication Design for Health Care Professionals  
 CLED/EDUS 631 American College and University  
 CLED/EDUS 633 Academic Leadership in Higher Education  
 EDUS 601 Philosophy of Education

EDUS 610 Social Foundations of Education  
 EDUS 661 Educational Evaluation: Models and Design  
 EDUS 662 Educational Measurement and Evaluation  
 GRAD 601 The Academic Profession  
 GRAD 602 Teaching, Learning and Technology in Higher Education  
 GRAD 605 Professional Specialty Seminar  
 SELD 600 Characteristics of Persons with Learning Disabilities  
 TEDU 615 Curriculum Development

### Nursing administration and leadership

For registered nurses interested in a leadership role in a health care organization, the nursing administration and leadership concentration offers a flexible and rewarding career path. Over the past three decades, this concentration has gained a reputation for educating some of the nation's top nursing leaders. With a vision of shaping the future of health care through innovative nursing leadership, the NAL concentration prepares nurses to play an essential systems-level role in promoting and sustaining high-quality and safe patient care. Students gain advanced knowledge and skills in the areas of leadership, administration, management, health care finance, budgeting, outcomes management and evidence-based organizational practices in health care.

Students who successfully complete the NAL concentration within the certificate program are prepared to succeed in a nursing leadership position and are eligible, depending on employment role, to apply for several different nursing administration certification exams offered through the American Nurses Credentialing Center of the American Nurses Association or the American Organization of Nurse Executives.

Below is a sample curriculum.

	Credits
<b>Certificate courses*</b>	
NURS 505 Advanced Nursing Practice: Foundations in Health Care Finance	3
NURS 508 Policy, Processes and Systems for Advanced Nursing Practice**	3
NURS 655 Nurse as Leader	2
NURS 680 Leading People	3
NURS 681 Nurses as Organizational Leaders	3
NURS 687 Management Systems and Health Care Outcomes	4
NURS 690 Application of Financial Concepts	4
NURS 692 Integrative Administrative Systems Practicum I	2
NURS 693 Integrative Administrative Systems Practicum II	2
NURS 694 Integrative Administrative Systems Practicum III	2

\* Nursing administration courses are not offered every year. Students should consult their advisers for a schedule of classes.

\*\* If course is not taken in master's program.

### Pediatric nurse practitioner

Admission to this concentration has been suspended for 2013-14.

Graduate courses in health assessment, pathophysiology and pharmacology must be completed prior to or concurrent with enrollment in the concentration area courses.

The following plans are examples of curricula:

#### Pediatric nurse practitioner

NURS 503 Advanced Nursing Practice: Psychosocial	3
NURS 633 Common Health Problems of Women	1
NURS 647 Health Promotion and Disease Prevention in Children	3
NURS 648 Management of Acute Problems of Children and Adolescents	3

NURS 649 Children with Special Health Care Needs	3
NURS 650 Child Behavior and Mental Health	2
NURS 671 Practicum in Pediatric Behavioral and Mental Health	1
NURS 672 Child Practicum I	3
NURS 673 Child Practicum II	3
NURS 674 Child Practicum III	4
NURS 682 Women's Practicum I	1
IDDS 600C Interdisciplinary Studies in Developmental Disabilities: Teamwork in Serving Persons with Developmental Disabilities	3

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### Psychiatric-mental health nurse practitioner

Students in nurse practitioner certification concentrations are required to have completed advanced health assessment, pharmacotherapeutics and pathophysiology courses.

The psychiatric-mental health nurse practitioner concentration prepares graduates for roles as nurse practitioners in psychiatric-mental health nursing. This concentration focuses on psychopharmacologic and psychotherapeutic management and treatment of common mental health problems and psychiatric disorders seen across the lifespan. Graduates use evidence-based guidelines to assess and intervene in response to the psychiatric, psychosocial and psychoeducational needs of individuals, families and groups. Students who successfully complete the psychiatric-mental health nurse practitioner program are eligible to apply for the psychiatric and mental health nurse practitioner certification exam administered by the American Nurses Credentialing Center. Psychiatric-mental health nurse practitioners are prepared to diagnose and treat individuals with psychiatric and/or substance abuse disorders, as well as address the mental health problems that often go along with medical illness.

Below is a sample curriculum.

	Credits
<b>Certificate courses</b>	
NURS 622 Advanced Practice Psychiatric Mental Health Nursing Practicum I	4
NURS 623 Advanced Practice Psychiatric Mental Health Nursing Practicum II	5
NURS 624 Advanced Practice Psychiatric Mental Health Nursing Practicum III	3
NURS 654 Advanced Practice Psychiatric Mental Health Nursing in Special Populations: Case Studies	1
NURS 656 Diagnosis and Psychopharmacologic Treatment of Psychiatric Disorders Across the Lifespan	4
NURS 657 Advanced Practice Psychiatric Mental Health Nursing: Theory and Practice Across the Lifespan	4

### Women's health nurse practitioner

Admission to this concentration has been suspended for 2013-14.

For registered nurses interested in providing primary care to women across the life span, becoming a women's health nurse practitioner offers you a rewarding career path. Since 1977, the VCU School of Nursing WHNP concentration has prepared graduates to provide comprehensive primary care to women, with an emphasis on gynecologic and reproductive health issues. Post-master's certificate graduates who complete the WHNP concentration are prepared to provide holistic care focused on health promotion, health protection, disease prevention and treatment of health problems that are unique to women. Students will learn to address women's health needs from menarche through the adult lifespan as well as assess the interrelationships among gender, social class, culture, ethnicity, sexual orientation, economic status and socio-political power differentials and their implications for the provision of women's health care.

Students who successfully complete the WHNP concentration within the certificate program are eligible to apply for certification as a women's health nurse practitioner by the National Certification Corporation of the National Commission for Certifying Agencies, the accreditation body of the National Organization for Competency Assurance.

Graduate courses in health assessment, pathophysiology and pharmacology must be completed prior to or concurrent with enrollment in the concentration area courses.

The following plan is an example of curriculum:

#### Women's health nurse practitioner concentration courses

NURS 632 Health Promotion in Women	3
NURS 633 Common Health Problems of Women	3
NURS 634 Advanced Practice: The Childbearing Woman	3
NURS 661 Adult-Gerontology Primary Care	3
NURS 676 Adult-Gerontology Primary Care Practicum I	2
NURS 682 Women's Practicum I	1-4
NURS 683 Women's Practicum II	1-4
NURS 685 Women's Practicum III	1-5

### Nursing, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

Nursing, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall of even years: full- and part-time study	For funding/scholarship consideration: Dec 1	GRE
	Fall of odd years: part-time study only	Priority consideration for applications (no funding requested): Feb 1	
		Note: Applications may be accepted after the Feb 1 deadline on space-available basis.	
Special requirements: See the <a href="#">School of Nursing website</a> for areas of study.			

The goal of the doctoral program in nursing is the preparation of scholars to develop knowledge in the discipline of nursing. The program examines knowledge development in nursing through an understanding of the impact of a wide range of historical influences on the discipline and through analysis of how emerging societal issues influence knowledge development. Knowledge in the humanities and social sciences and an understanding of knowledge development in other disciplines is viewed as foundational to a full understanding of knowledge development in nursing. Methodologic competency (i.e., knowledge of research designs, methodologies and tools) is also essential to a full understanding of the scope, range and path of knowledge development and the relevance to nursing practice.

The VCU School of Nursing will enhance its current Ph.D. program by incorporating a hybrid instructional format beginning fall 2012. The program will include a combination of online courses and traditional classroom experiences to offer students a dynamic, interactive learning experience that will prepare them to become nurse scholars and scientists. This new format is designed to expand the Ph.D. program's reach to a wider range of highly motivated, independent students who aspire to become scholars, make a significant difference in the field of nursing and study with nationally recognized nurse scientists who conduct biobehavioral clinical research.

#### Student learning outcomes

At the completion of the doctoral program, the student will be able to:

1. Apply, transmit and generate knowledge in the discipline of nursing.
2. Construct, test and modify theories for nursing in the context of social, ethical, scientific, cultural and economic influences.
3. Analyze and synthesize knowledge from related disciplines for use in nursing.
4. Exhibit scientific integrity in scholarly inquiry.

5. Engage in interdisciplinary collaboration in knowledge development and dissemination.

### Program outcomes

At the completion of the doctoral program, the student will be able to:

1. apply, transmit and generate knowledge in the discipline of nursing,
2. construct, test and modify theories for nursing in the context of social, ethical, scientific, cultural and economic influences,
3. analyze and synthesize knowledge from related disciplines for use in nursing,
4. exhibit scientific integrity in scholarly inquiry, and
5. engage in interdisciplinary collaboration in knowledge development and dissemination.

### Admission

All applicants to the Ph.D. program in nursing must meet the following admission requirements:

1. Applicants must have both a baccalaureate and a master's degree, one of which must be in nursing. The degree in nursing must be from an NLNAC- or CCNE-accredited school or international equivalent.
2. Applicants must have a master's GPA of 3.0 or better on a 4.0 scale.
3. Applicants must have a minimum total Graduate Record Exam score of 800 on verbal and quantitative.
4. Applicants must have a three-credit statistics course or equivalent with a passing grade of B or better.
5. Applicants must have licensure as an R.N. International applicants must have an equivalent credential.

All applicants must complete and submit the following materials:

1. A completed VCU application for graduate studies. Application forms and instructions for applying to all graduate programs are available on the Graduate School website at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).
2. Official transcripts from all previous universities and colleges attended for all graduate and undergraduate work.
3. A typed personal statement from the applicant, thoughtfully and scholarly answering the following questions:
  - a. What are your career goals and how do you see this doctoral program contributing to meeting them?
  - b. Within your particular area of interest, identify some problems you see as offering promise for research.
  - c. What particular strengths do you believe you bring to this program that would enrich the learning environment of your peers?
  - d. What do you perceive as major contemporary issues in nursing and what are your views on at least one of them?
  - e. Identify one or two potential advisers from the list of doctoral faculty eligible for advising and provide a rationale for your choice(s).
6. A resume that includes applicant's name and address, past educational degrees, past work experiences, professional affiliations, certifications, honors and awards, presentations, and publications.
7. References from three persons who can knowledgeably comment upon applicant's ability to succeed in an academic program (i.e., former faculty) or who can evaluate applicant's ability to be successful in nursing research. Avoid getting references from ministers or others who are not familiar with professional and academic abilities; from friends, either professional or personal; or from personal health care providers.
8. A personal interview is required.

#### Post B.S.-Ph.D. entry option

All applicants to the post B.S.-Ph.D. entry option must meet the following admission requirements:

- Applicants must have a baccalaureate degree in nursing. The degree must be from an NLNAC- or CCNE-accredited school or international equivalent.



- Applicants must have a competitive GPA for undergraduate-level studies.
- Applicants must have a minimum total Graduate Record Exam score of 800 on verbal and quantitative.
- Applicants must have passed a three-credit statistics course, or equivalent, with a grade of B or better.
- Applicants must have the R.N. licensure. International applicants must have an equivalent credential.

**Admission to candidacy**

Before admission to candidacy for the doctorate, students must have (1) satisfied the language requirement, if applicable, (2) completed all required course work, (3) successfully completed the comprehensive examination and (4) fulfilled any additional requirements.

**Comprehensive examinations**

The core purpose of the comprehensive examination is to assess a student's readiness to enter degree candidacy status. The comprehensive exam focuses on synthesis of knowledge from across the program. Synthesis reflects knowledge, comprehension, application and analysis.

The student will request to take the comprehensive examination at the first available testing date following completion of the doctoral course work for the Ph.D. program (approximately six weeks after the last day of class). The examination will be offered in fall, spring and summer semesters.

The administration of the examination is managed through the Office of the Associate Dean of Academic Programs.

**Curriculum**

<b>Core content</b> (all students)	<b>Credits</b>
<b>Philosophy and theory courses (6 credits)</b>	
NURS 703 Philosophy of Human Sciences	3
NURS 704 Theoretical Structures for Nursing Knowledge (3)	3
<b>Research methods and statistics (17 credits)</b> (required of all students)	
BIOS/STAT 543 Statistical Methods I	3
BIOS/STAT 544 Statistical Methods II	3
NURS 770 Quantitative Research Design	3
NURS 772 Qualitative Research Design and Analysis	4
NURS 773 Perspectives on Research Design	3
OVPR 601 Scientific Integrity or GRAD 603 Responsible Conduct of Research	1
<b>Focus of inquiry (12 or 15 credits)</b>	
NURS 720 Foundations of Biobehavioral Clinical Research	3
NURS 721 Biobehavioral Measures in Clinical Research	3
NURS 722 Emerging Frameworks for Biobehavioral Clinical Research	3
Choose courses designed to support the area of study. May also include advanced methods or NURS 796 Directed Research.	3 or 6
<b>Research training (14 or 11 credits)</b>	
NURS 776, 777, 778 Research Program Development I, II, III	6
NURS 796 Directed Research	5 or 2
NURS 797 Research Practicum	3
<b>Dissertation (12 credits)</b>	
NURS 898 Dissertation	12

**Total 61****Dissertation**

The student must conduct a substantial independent investigation and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge. Satisfactory completion of the comprehensive examination and a satisfactory oral defense of the dissertation proposal are required prior to commencement of actual work outlined in the proposal. Once approved, the dissertation proposal is similar to a formal contract between the student and dissertation committee about the nature of the dissertation. The dissertation committee must consist of a minimum of four members. Any member of the graduate faculty of the School of Nursing may chair the dissertation committee. Other committee members must include one faculty member from the student's focus area and one member from outside the School of Nursing. The dissertation committee is approved by the Associate Dean for Academic Programs in the School of Nursing. (The required form is available at [www.nursing.vcu.edu](http://www.nursing.vcu.edu)). An oral defense of the dissertation is conducted by the student's dissertation committee. The student is responsible for preparing the dissertation in accordance with the most current version of the Graduate School Thesis and Dissertation Manual on the Web at [www.graduate.vcu.edu/pdfs/thesis.pdf](http://www.graduate.vcu.edu/pdfs/thesis.pdf).

**Nursing, Master of Science (M.S.)****Admission requirements summary**

<b>Nursing, Master of Science (M.S.)</b>			
Indicate specialization: adult-gerontology acute care nurse practitioner, adult-gerontology primary care nurse practitioner, adult-gerontology clinical nurse specialist, family nurse practitioner, pediatric nurse practitioner, psychiatric-mental health nurse practitioner, women's health nurse practitioner, or nursing administration and leadership			
List as track: Traditional M.S. (for R.N. with B.S. in Nursing) or R.N.-M.S. (for R.N. with associate or diploma in nursing)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Applications received by Mar 15 given priority consideration	GRE (required if cumulative undergraduate GPA is less than 3.25)
	Spring (nursing administration and leadership only)	Applications received by Sep 15 given priority consideration	

Ranked in the top 10 percent of nursing graduate programs by U.S. News and World Report, the master's degree program at VCU School of Nursing provides a world-class learning experience that prepares nurses to become leaders in advanced nursing practice. The master's program provides nurses with a solid foundation in the specialized knowledge and advanced practice skills that are needed to care for diverse patient populations with complex health problems across the health-illness continuum. In addition, students partner with interprofessional groups to develop expertise in team-based, patient-centered health care, while also gaining valuable leadership and collaborative skills. The curriculum at VCU prepares graduates who can engage in transformative nursing, not only as leaders who are committed to nursing excellence but also as practitioners who are committed to the health and well-being of the patients they serve.

VCU School of Nursing offers both direct and indirect patient care concentrations. Our direct patient care concentrations are focused on two roles: nurse practitioner and clinical nurse specialist. Nurse practitioner concentrations include family, women's health\*, pediatrics\*, adult-gerontology primary care\*, adult-gerontology acute care and psychiatric-mental health. Our clinical nurse specialist concentration is adult-gerontology\*. One indirect patient care concentration is offered in nursing administration and leadership.

\*Note: Admissions to these concentrations have been suspended for the 2013-14 academic year: adult-gerontology primary care nurse practitioner, adult-gerontology clinical nurse specialist, pediatric nurse practitioner, women's health nurse practitioner.

### Student learning outcomes

Guided by the American Association of Colleges of Nursing's "Essentials of Master's Education for Advanced Practice Nursing," the faculty prepare students to practice and lead in a rapidly evolving health care environment. The graduate of the VCU School of Nursing:

- Possesses knowledge in the advanced practice of nursing as a nurse practitioner, clinical nurse specialist, nurse administrator, nurse educator or clinical nurse leader.
- Employs knowledge of social, cultural, economic and organizational that impact practice in health care delivery systems.
- Demonstrates beginning competency in the advanced practice of nursing.
- Synthesizes current research and other evidence as a basis for advanced practice.
- Evaluates one's own performance in the advanced practice of nursing based on current standards.
- Contributes to the discipline of nursing through a systematic program of practice, education, scholarship, leadership and participation in professional organizations.
- Communicates effectively in the advanced practice of nursing.
- Acts in accordance with the laws, regulations and standards that govern practice.
- Uses technology applicable to the practice arena in a competent manner.
- Respects the inherent dignity of every human being.
- Provides culturally appropriate care to diverse individuals and groups.
- Seeks to improve the quality of health for all citizens.

### Admission requirements

#### Traditional M.S. program

To be considered for the traditional M.S. track, applicants must:

- Be eligible for readmission or in good standing at the last college attended
- Be a graduate of an accredited (NLNAC or CCNE) baccalaureate degree program in nursing
- Have a current unencumbered R.N. license or an authorization to practice as an R.N. in Virginia, Washington, D.C., or a U.S. possession or territory
- Have a minimum cumulative GPA of 2.7 on all college course work
- Complete an undergraduate statistics course
- Provide GRE scores if cumulative undergraduate GPA is less than 3.25
- Submit online VCU Graduate Application (electronically), School of Nursing supplemental application materials and all required documents by posted deadline

#### R.N.-M.S. program

To be considered for the R.N.-M.S. track, applicants must:

- Be eligible for readmission or in good standing at the last college attended
- Be a graduate of an accredited (NLNAC) diploma or associate degree program in nursing
- Have a current unencumbered R.N. license or an authorization to practice as an R.N. in Virginia, Washington, D.C., or a U.S. possession or territory
- Have a minimum cumulative GPA of 2.7 on all college course work
- Complete the following courses prior to enrollment: anatomy (four credits), physiology (four credits), English composition (six credits), statistics (three credits), philosophy (three credits), humanities (nine credits), general psychology (three credits), developmental psychology (three credits), general sociology (three credits), college lab science (eight credits), microbiology (four credits) and nutrition (three credits)
  - Refer to the [VCU Transfer Guide](#) for transferrable courses offered at other universities and colleges.

**Note:** If the applicant has a bachelor's degree in a discipline other than nursing, the general education requirements for the R.N.-M.S. track will be met with the previous baccalaureate with the exception of anatomy (four credits), physiology (four credits), microbiology (four credits), developmental psychology (three credits) and statistics (three credits).

- Provide GRE scores if cumulative undergraduate GPA is less than 3.25 upon completion of the B.S. portion of the R.N.-M.S. track
- Submit online VCU Graduate Application (electronically), School of Nursing supplemental application materials and all required documents by posted deadline

### Graduation requirements

To be a candidate for the degree of Master of Science in Nursing, students must be recommended by the faculty and must:

- Meet academic requirements of the Graduate School
- Complete all requirements for the prescribed curriculum within five calendar years of the first registration for work to be credited toward the degree
- Earn at least a B or pass grade in all nursing courses
- Earn at least a cumulative grade-point average of 3.0 on a 4.0 scale in all work presented for graduation
- Conform to School of Nursing policies in respect to pass/fail grading for course work or thesis study

The degree will be granted only after all requirements have been fulfilled, all fees to the university have been paid and bound copies of the thesis have been submitted. Degrees are not granted in absentia unless written request is made to the dean and permission is granted.

### Academic requirements

- A student may not proceed in the program with a GPA of less than 3.0 on a 4.0 scale or with a grade of less than B in any nursing course. In exceptional circumstances, an appeal for progression may be made to the Master's Program Committee. Students earning less than a C are referred to policy 6.4.1 in the School of Nursing Policy and Information Handbook (<http://www.nursing.vcu.edu/handbook/index.html>).
- An adviser for each student is appointed by the department chair. That adviser will assist the student in enacting strategies for academic success and considering career options.

### Adult-gerontology

The adult-gerontology concentration includes three roles: adult-gerontology primary care nurse practitioner, adult-gerontology acute care nurse practitioner and adult-gerontology clinical nurse specialist.

The adult-gerontology primary care nurse practitioner role focuses on the provision of advanced independent nursing care integrated with delegated medical diagnostic and management activities. The adult-gerontology primary care nurse practitioner has a practice located in an ambulatory care setting and focuses on health promotion, risk reduction and evidence-based primary care to individual patients.

The adult-gerontology acute care nurse practitioner generally works in an acute care setting, often within a multidisciplinary team focused on the provision of evidence-based care to adults who are acutely ill. The sphere of influence of the nurse practitioner is that of the patient.

The adult-gerontology clinical nurse specialist is a clinical expert in a specialized area of nursing practice who focuses on the diagnosis and treatment of illness as well as promotion of health and well-being for adults across the lifespan. The adult-gerontology clinical nurse specialist is responsible for ensuring excellence in the delivery of nursing care to patients within that population. This includes consultation with individual patients as well as with nurses who provide care to the patient in an acute care setting, and overall systems management to facilitate care. The site of practice is determined by the location of the patient population of interest — it may be in a primary care setting, for example, people undergoing chemotherapy. The sphere of influence of the clinical nurse specialist is threefold: patient, nursing personnel and systems/organizations.

Below is a sample curriculum.

Core courses	Credits
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3
NURS 503 Ethics, Advanced Nursing Practice and the Health Care Environment	3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 507 Health Promotion and Disease Prevention Across the Lifespan	4
NURS 508 Policy, Processes and Systems for Advanced Nursing Practice	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Evidence-based Advanced Nursing Practice	3
NURS 601 Advanced Professionalization II	1

#### Adult-gerontology acute care nurse practitioner concentration courses

NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 612 Acute Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	2
NURS 661 Adult-Gerontology Primary Care	4
NURS 662 Common Problems in Adult-Gerontology Critical Care	3
NURS 663 Adult-Gerontology Acute Care	3
NURS 678 Adult-Gerontology Acute Care Practicum I	3
NURS 669 Adult-Gerontology Acute Care Practicum II	5
NURS 679 Adult-Gerontology Acute Care Practicum III	4

#### Adult-gerontology primary care nurse practitioner concentration courses

Admission to this concentration has been suspended for 2013-14.

NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	2
NURS 661 Adult-Gerontology Primary Care	4
NURS 663 Adult-Gerontology Acute Care	3
NURS 676 Adult-Gerontology Primary Care Practicum I	3
NURS 675 Adult-Gerontology Primary Care Practicum II	4
NURS 677 Adult-Gerontology Primary Care Practicum III	4

#### Adult-gerontology clinical nurse specialist concentration courses

Admission to this concentration has been suspended for 2013-14.

ADLT 606 Design and Delivery of Adult Learning Programs	3
NURS 625 Clinical Nurse Specialist: Adult Acute Care Practicum	7
NURS 626 Clinical Nurse Specialist: Advanced Adult Acute Care Practicum	5
NURS 662 Common Problems in Adult-Gerontology Critical Care	3
NURS 663 Adult-Gerontology Acute Care	3
NURS 686 Emerging Clinical Issues in Patient Management	3
NURS 687 Management Systems and Health Care Outcomes	4

#### Pediatric nurse practitioner

Admission to this concentration has been suspended for 2013-14.

Below is a sample curriculum.

Core courses	Credits
IDDS 600 Interdisciplinary Studies in Developmental Disabilities: Teamwork in Serving Persons with Developmental Disabilities	3
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3
NURS 503 Advanced Nursing Practice: Psychosocial	3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 508 Advanced Nursing Practice: Systems	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Advanced Nurse Science	3
NURS 601 Advanced Professionalization II	1

#### Child health nursing concentration

NURS 633 Common Health Problems of Women	1
NURS 647 Health Promotion and Disease Prevention in Children	3
NURS 648 Management of Acute Problems of Children and Adolescents	3
NURS 649 Children with Special Health Care Needs	3
NURS 650 Child Behavior and Mental Health	2
IDDS 600 Interdisciplinary Teamwork	3

#### Concentration practicum courses (varies by concentration)

NURS 672 Child Practicum I	1-3
NURS 673 Child Practicum II	1-3
NURS 674 Child Practicum III	1-4
NURS 671 Practicum in Pediatric Behavioral and Mental Health	1

#### Family nurse practitioner

For registered nurses interested in providing primary health care to patients of all ages, the family nurse practitioner program offers a flexible and rewarding career path. First launched as a certificate program in 1974, the VCU School of Nursing FNP concentration within the Master of Science in Nursing program prepares you to assess, diagnose and manage common health problems as well as maximize the health and well-being of individuals and families across the life span. Using comprehensive physical and psychosocial assessments, diagnostic reasoning, advanced-practice skills and procedures, and evidence-based treatment strategies, VCU School of Nursing graduates with the FNP concentration are prepared to provide direct care to individuals and families in a variety of primary care settings.

Students who successfully complete the FNP concentration within the master's program are eligible to apply for certification as a family nurse practitioner by both national certifying bodies: the American Nurses Credentialing Center and the American Academy of Nurse Practitioners.

Below is a sample curriculum.

Core courses	Credits
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3
NURS 503 Ethics, Advanced Nursing Practice and the Health Care Environment	3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 508 Policy, Processes and Systems for Advanced Nursing Practice	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Evidence-based Advanced Nursing Practice	3

NURS 601 Advanced Professionalization II 1

#### Concentration courses

NURS 611 Primary Care Advanced Practice Clinical Procedures	1
NURS 633 Common Health Problems of Women	3
NURS 634 Advanced Practice: The Childbearing Woman	2
NURS 647 Health Promotion and Disease Prevention in Children	3
NURS 648 Management of Acute Problems of Children and Adolescents	3
NURS 660 Health Promotion and Disease Prevention in Adults	3
NURS 661 Adult-Gerontology Primary Care	4
NURS 670 Primary Care of Families	3
NURS 672 Child Practicum I	3
NURS 676 Adult-Gerontology Primary Care Practicum I	3
NURS 682 Women's Practicum I	3
NURS 684 Family Practicum	4

#### Psychiatric-mental health nurse practitioner

The psychiatric-mental health nurse practitioner concentration prepares graduates for roles as nurse practitioners in psychiatric-mental health nursing. This concentration focuses on psychopharmacologic and psychotherapeutic management and treatment of common mental health problems and psychiatric disorders seen across the lifespan. Graduates use evidence-based guidelines to assess and intervene in response to the psychiatric, psychosocial and psychoeducational needs of individuals, families and groups. Students who successfully complete the psychiatric-mental health nurse practitioner program are eligible to apply for the psychiatric and mental health nurse practitioner certification exam administered by the American Nurses Credentialing Center. Psychiatric-mental health nurse practitioners are prepared to diagnose and treat individuals with psychiatric and/or substance abuse disorders, as well as address the mental health problems that often go along with medical illness.

Below is a sample curriculum.

Core courses	Credits
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3
NURS 503 Ethics, Advanced Nursing Practice and the Health Care Environment	3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 507 Health Promotion and Disease Prevention Across the Lifespan	4
NURS 508 Policy, Processes and Systems for Advanced Nursing Practice	3
NURS 509 Health Program Planning	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Evidence-based Advanced Nursing Practice	3
NURS 601 Advanced Professionalization II	1

In addition to the core course requirements, the following concentration courses are required.

#### Concentration courses

NURS 622 Advanced Practice Psychiatric Mental Health Nursing Practicum I	4
NURS 623 Advanced Practice Psychiatric Mental Health Nursing Practicum II	5
NURS 624 Advanced Practice Psychiatric Mental Health Nursing Practicum III	3
NURS 654 Advanced Practice Psychiatric Mental Health Nursing in Special Populations: Case Studies	1
NURS 656 Diagnosis and Psychopharmacologic Treatment of Psychiatric Disorders Across the Lifespan	4
NURS 657 Advanced Practice Psychiatric Mental Health Nursing: Theory and Practice Across the Lifespan	4

#### Nursing administration and leadership

For registered nurses interested in a leadership role in a health care organization, the nursing administration and leadership concentration offers a flexible and rewarding career path. Over the past three decades, this concentration has gained a reputation for educating some of the nation's top nursing leaders. With a vision of shaping the future of health care through innovative nursing leadership, the NAL concentration prepares nurses to play an essential systems-level role in promoting and sustaining high-quality and safe patient care. Students gain advanced knowledge and skills in the areas of leadership, administration, management, health care finance, budgeting, outcomes management and evidence-based organizational practices in health care.

Students who successfully complete the NAL concentration within the master's program are prepared to succeed in a nursing leadership position and are eligible, depending on employment role, to apply for several different nursing administration certification exams offered through the American Nurses Credentialing Center of the American Nurses Association or the American Organization of Nurse Executives.

Below is a sample curriculum.

Core courses	Credits
NURS 503 Ethics, Advanced Nursing Practice and the Health Care Environment	3
NURS 505 Advanced Practice Nursing: Foundations in Health Care Finance	3
NURS 508 Policy, Processes and Systems for Advanced Nursing Practice	3
NURS 512 Evidence-based Advanced Nursing Practice	3
<b>Concentration courses</b>	
NURS 655 Nurse as Leader	2
NURS 680 Leading People	3
NURS 681 Nurses as Organizational Leaders	3
NURS 687 Management Systems and Health Care Outcomes	4
NURS 690 Application of Financial Concepts	4
NURS 692 Integrative Administrative Systems Practicum I	2
NURS 693 Integrative Administrative Systems Practicum II	2
NURS 694 Integrative Administrative Systems Practicum III	2
Accounting elective	3

#### R.N.-M.S. track

The School of Nursing offers a track in the master's program designed for students who have their R.N. licensure but have not completed the baccalaureate degree. The track includes elements of the R.N.-B.S. program and moves the student expeditiously into M.S. program course work. The student completes the general education requirements for the baccalaureate degree prior to entering the R.N.-M.S. track. The track provides the additional courses in the major required for the degree and a B.S. degree is awarded after the completion of 30 credit hours of specified course work. All concentrations in the master's program are available to students admitted to this track.

(Undergraduate nursing courses taken in the R.N.-B.S. track)	Credits
NURS 301 Information Literacy in Health Care	3
NURS 307 Foundations of Professional Nursing I	3
NURS 308 Foundations of Professional Nursing II	3
NURS 367 Applied Principles of Health and Disease	3
NURS 407 Using Evidence in Clinical Practice	2
NURS 410 Applied Ethics in Clinical Practice	3
NURS 415 Community Health Nursing: Theory and Application*	5
NURS 461 Advanced Clinical Assessment	3
NURS 477 Leadership and Management in Health Care	4

NURS 488 Practicum in Clinical and Management Decision-making	3
<b>Total</b>	<b>32</b>

\*This course will be accepted in transfer only upon rigorous evaluation for comparability to the B.S. course using defined criteria developed by expert faculty in community health. VCU course objectives will be provided to applicants, who must provide a copy of the course syllabus and a written statement of how the course met the objectives of the VCU course. Otherwise the course will be taken as a prerequisite for beginning the R.N.-M.S. track.

<b>M.S. core curriculum component (credits shared for B.S. and M.S. degrees)</b>		Credits
NURS 501 Advanced Professionalization I		1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics		3
NURS 503 Advanced Nursing Practice: Psychosocial		3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan		3
NURS 508 Advanced Nursing Practice: Systems		3
NURS 509 Health Program Planning		3
NURS 511 Health Assessment for Advanced Nursing Practice		3
NURS 512 Advanced Nursing Science		3
NURS 601 Advanced Professionalism II		1
<b>Total</b>		<b>23**</b>

\*\*The remainder of the curriculum (at least 30 credits) is consistent with all requirements of the current M.S. program and is specific to the concentration chosen.

### Nurse educator

Admissions to this concentration are suspended until further notice.

The nurse educator track prepares students for roles in nursing education. These roles focus on the facilitation of learning through curriculum design, teaching, evaluation, advisement and other activities undertaken by faculty in schools of nursing.

Nursing education may take place in a variety of settings, including hospitals, colleges and universities. The implementation of the faculty role may be in traditional classroom-based environments or in nontraditional environments. Nurse educators engage in a number of roles and functions, each of which reflects the core competencies of nursing faculty. Those competencies include:

1. Facilitate student learning.
2. Facilitate learner development and socialization.
3. Use assessment and evaluation strategies.
4. Participate in curriculum design and evaluation of program outcomes.
5. Function as a change agent and leader.
6. Pursue continuous quality improvement in the nurse educator role.
7. Engage in scholarship.
8. Function within the educational environment.

The extent to which a specific nurse educator implements these competencies varies according to many factors, including the mission of his or her institution, rank, academic preparation and type of program in which teaching takes place. After completion of the nurse educator track and two years or more of full-time employment in the academic faculty role, graduates are eligible to sit for the Nurse Educator certification exam.

	Credits
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3

NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Advanced Nursing Science	3
NURS 602 Contexts and Curriculum of Nursing Education	3
NURS 603 Classroom Teaching Strategies	3
NURS 604 Clinical Teaching Strategies	4
Support courses* (two)	6
Education course electives (two)	6
<b>Total</b>	<b>35</b>

\*Support courses are clinically focused nursing courses within one specialty area and are determined by the student and their adviser.

### Women's health nurse practitioner

Admission to this concentration has been suspended for 2013-14.

For registered nurses interested in providing primary care to women across the life span, becoming a women's health nurse practitioner offers you a rewarding career path. Since 1977, the VCU School of Nursing WHNP concentration has prepared graduates to provide comprehensive primary care to women, with an emphasis on gynecologic and reproductive health issues. Master of Science graduates who complete the WHNP concentration are prepared to provide holistic care focused on health promotion, health protection, disease prevention and treatment of health problems that are unique to women. Students will learn to address women's health needs from menarche through the adult lifespan as well as assess the interrelationships among gender, social class, culture, ethnicity, sexual orientation, economic status and socio-political power differentials and their implications for the provision of women's health care.

Students who successfully complete the WHNP concentration within the master's program are eligible to apply for certification as a women's health nurse practitioner by the National Certification Corporation of the National Commission for Certifying Agencies, the accreditation body of the National Organization for Competency Assurance.

Below is a sample curriculum.

<b>Women's health nurse practitioner core courses</b>	<b>Credits</b>
NURS 501 Advanced Professionalization I	1
NURS 502 Advanced Nursing Practice: Pharmacotherapeutics	3
NURS 503 Advanced Nursing Practice: Psychosocial	3
NURS 504 Advanced Nursing Practice: The Biological Basis of Health and Illness Across the Lifespan	3
NURS 508 Advanced Nursing Practice: Systems	3
NURS 509 Health Program Planning	3
NURS 511 Health Assessment for Advanced Nursing Practice	3
NURS 512 Advanced Nurse Science	3
NURS 601 Advanced Professionalization II	1

### Women's health nurse practitioner concentration courses

NURS 632 Health Promotion in Women	3
NURS 633 Common Health Problems of Women	3
NURS 634 Advanced Practice: The Childbearing Woman	3
NURS 661 Adult-Gerontology Primary Care	3
NURS 676 Adult-Gerontology Primary Care Practicum I	2
NURS 682 Women's Practicum I	1-4
NURS 683 Women's Practicum II	1-4
NURS 685 Women's Practicum III	1-5





## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Pharmacy**

The School of Pharmacy was established officially in 1898; the University College of Medicine had a school of pharmacy when it opened in 1893. The two-year curriculum gave way to a three-year program in 1925, and in 1932 the school required four years of college work and a Bachelor of Science degree was awarded. In 1960, the program lengthened to a five-year course leading to a Bachelor of Science in Pharmacy degree. In 1975, authority was granted to offer to selected students a six-year program leading to the Doctor of Pharmacy degree and this program was adopted as the only professional offering by the school in 1995. The School of Pharmacy currently enrolls students in a four-year professional Doctor of Pharmacy program curriculum following completion of at least three years of pre-professional studies taken at VCU or elsewhere. In 1996 a part-time program was offered that permits current Bachelor of Science in Pharmacy degree holders to earn the Doctor of Pharmacy degree in a nontraditional format requiring students to come to campus infrequently. This program is in the process of being phased out and no longer accepts students for enrollment. Since 1971, all pharmacy students have participated in a clerkship program (now referred to as advanced pharmacy practice experiences) during the final year of the curriculum. Beginning 2008, the school added introductory pharmacy practice experiences during the first three years of the program to gradually transition the student from the academic classroom setting into the practice arena. Students spend their final year in a variety of practice settings under the supervision of highly qualified faculty preceptors.

The authority to award graduate degrees in the pharmaceutical sciences was granted by the Graduate Council in 1952. Departments in the school have the responsibility for administering a graduate program leading to the M.S. and Ph.D. in Pharmaceutical Sciences. This program includes areas of specialization in medicinal chemistry, pharmaceuticals, pharmacotherapy and pharmacy administration. These programs provide the preparation and research experience for academic, governmental and industrial careers. Graduate degrees in pharmaceutical sciences do not provide eligibility for licensure as a pharmacist.

Students may elect to pursue a joint Pharm.D./M.S., Pharm.D./Ph.D., Pharm.D./M.B.A. or Pharm.D./M.P.H. program. Such students must apply to, and be accepted by, both programs separately.

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## Administration

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**Victor A. Yanchick**  
Dean

**Michael J. Clarke**  
Assistant Dean for INOVA Campus

**Jeffrey C. Delafuente**  
Associate Dean for Professional Education

**Gary R. Matzke**  
Associate Dean for Professional Education

**Phylliss M. Moret**  
Assistant Dean for Experiential Education

**Thomas P. Reinders**  
Associate Dean for Admissions and Student Affairs

**Regina D. Scott**  
Interim Assistant Dean for Finance and Administration

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## Accreditation and Complainant policy

### Pharmacy (Pharm.D.) accreditation

The Doctor of Pharmacy degree program at the Virginia Commonwealth University School of Pharmacy is fully accredited by the Accreditation Council for Pharmacy Education (ACPE), 20 N. Clark St., Suite 2500, Chicago, IL 60602-5109. Accreditation standards are available in the school's Office of Admissions and Student Services and via the ACPE website at [www.acpe-accredit.org](http://www.acpe-accredit.org). Additionally, the school is a member of the American Association of Colleges of Pharmacy.

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## Complainant policy

ACPE has an obligation to assure itself that any institution that seeks accreditation status for its professional degree program conducts its affairs with honesty and frankness. Students who have complaints about the school's ability to meet accreditation standards or adhere to ACPE policies and procedures shall be submitted in writing to the Associate Dean for Admissions and Student Services, VCU School of Pharmacy, 410 N. 12th St., Room 500, Richmond, VA 23298-0581. The complainant is welcome to make an appointment to meet with school administrators to discuss his or her complaints and options for resolution. If they are not satisfied with the response by the school's representative/s, then complainants may contact ACPE at 135 S. LaSalle St., Suite 4100, Chicago, IL 60603 or [www.acpe-accredit.org/complaints](http://www.acpe-accredit.org/complaints) with a complaint. A record of written complaints about the school's adherence to ACPE accreditation standards or policies and procedures will be maintained for ACPE to review at the time of an accreditation site visit.

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## Statement of purpose

The School of Pharmacy at Virginia Commonwealth University exists to provide exceptional programs benefiting the commonwealth of Virginia and society by offering the highest quality education and training for the development of health care practitioners, scientists, professional leaders and responsible citizens. These individuals are committed to shaping the health care world of tomorrow while serving society's health care needs today.

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## Mission statement

The mission of the VCU School of Pharmacy fully supports the mission and goals of the university and the Medical College of Virginia Campus. The school's mission is to provide professional, graduate and postgraduate education, conduct pharmaceutical and biomedical research, and provide patient care and public service.

The school strives to provide an educational environment that encourages the following:

- Excellence in scholarship
- Excellence in teaching
- Diversity and respect among students and faculty
- Commitment to the various needs of students
- Commitment to service within the school, the university, the profession and the community
- Quality direct patient care experiences within the curriculum
- Commitment to fostering the concept and importance of lifelong learning

Therefore, the school shares with teaching, the interdependent and almost inseparable objectives of research, service and patient care.

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## Philosophy

In developing the curriculum of the School of Pharmacy, the faculty recognizes that an educated person should be prepared to assume a responsible and rewarding role in society. The new paradigm of pharmaceutical care guides the school's curriculum committee and faculty in the design and implementation of the curriculum. Pharmaceutical care is the responsible provision of drug therapy by the pharmacist for the purpose of achieving definite outcomes that improve a patient's quality of life. In professional practice pharmaceutical care focuses on the pharmacist's attitudes, behaviors, commitment, concerns, ethics, functions, knowledge, responsibilities and skills in the provision of drug therapy, which achieve outcomes that yield improvement in a patient's quality of life. The educational program is designed to provide a sound, scientific and professional background for both those who will enter the practice of pharmacy directly and those who wish to continue graduate education in the pharmaceutical sciences. It also includes courses in the arts and humanities in order to provide the student with a broad educational base that will permit participation in community life, not only as a professional, but also as an informed, concerned citizen. The professional curriculum is rigorous and highly demanding of the student's time; employment must not be allowed to interfere with the educational process. The faculty has adopted a document entitled "Expected Competencies of Doctor of Pharmacy Graduates" and has expanded these competencies into knowledge, skills and attitudes that have been implemented in the curriculum.

## Career opportunities

Graduation from the School of Pharmacy with a professional degree affords the opportunity to pursue one of several career paths. The most familiar role is as a provider of pharmaceutical care to ambulatory patients in a community setting. In this setting the pharmacist may be self-employed or may be an employee of an organization such as an independent pharmacy, a corporate chain of pharmacies or a managed care pharmacy in a health maintenance organization.

Many pharmacists also practice in institutional settings such as hospitals or other health care institutions.

The pharmaceutical industry also employs pharmacists in several areas including manufacturing, quality control, research, sales and as medical service representatives who call on physicians. Opportunities also are available in various government services, such as public health and veterans affairs, as well as in government-operated laboratories.

In most cases, those who aspire to engage in independent research or to teach seek graduate degrees in the pharmaceutical sciences or in specialty fields related to pharmacy, or they complete pharmacy residency or fellowship program.

The American Pharmacists Association Pathway Evaluation Program provides information about the many areas of pharmacy practice. The program offers an interactive assessment tool and extensive background information about the pharmacy profession. Individuals interested in learning more about the profession are encouraged to select the Careers menu on the APhA website at [www.pharmacist.com](http://www.pharmacist.com).

## Facilities

The School of Pharmacy is located in the Robert Blackwell Smith Building at 12th and East Clay streets. This building — named in honor of a distinguished former dean of pharmacy, former president of the Medical College of Virginia and former provost of the MCV Campus — was completed in 1984 with the help of contributions from many alumni and friends of the School of Pharmacy. Additional classrooms, offices and laboratories are located in McGuire Hall and the Virginia BioTechnology Research Park, both located within a few blocks of the Smith Building.

Classes for students in pharmacy also are conducted in Sanger Hall, located between 11th and 12th streets on East Marshall Street, and McGuire Hall, located at the corner of 12th and Clay streets. In conjunction with the VCU Health System, students receive clinical experience in the VCUHS's MCV Hospitals and clinics. Other facilities available for teaching include area hospitals and pharmacies. The major library holdings are in the Tompkins-McCaw Library at 12th and East Clay streets.

Location in a major health sciences center provides excellent opportunities for interdisciplinary research and access to clinical facilities. The school is well equipped for graduate research and provides leadership to the VCU Institute for Structural Biology and Drug Discovery at the Virginia BioTechnology Research Park. The institute makes use of synthetic medicinal chemistry, X-ray crystallography, NMR, protein and nucleic acid chemistry, bacterial enzymology, and molecular pharmacology to promote drug development. Several businesses have been spawned through the institute and two new drugs have entered clinical trials.

The Department of Pharmacy supports the Center for Drug Studies (CDS), a fully staffed facility for conducting Phase I-III research in humans.

### Pharmaceutical Sciences, Doctor of Philosophy (Ph.D.)

#### Admission requirements summary

<b>Pharmaceutical Sciences, Doctor of Philosophy (Ph.D.)</b> Indicate specialization: medicinal chemistry, pharmaceuticals, pharmacotherapy, or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Jan 1 for medicinal chemistry track  May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

The school offers programs of graduate study leading to the degree of Doctor of Philosophy. Students may specialize in pharmaceuticals, medicinal chemistry, pharmacotherapy, or pharmacoeconomics and health outcomes.

#### Student learning outcomes

- **Knowledge of research in pharmaceutical sciences**
  - The candidate should demonstrate a general knowledge of the elements of the pharmaceutical sciences and a detailed knowledge of his/her area of research, including an appropriate familiarity with the research literature, policies and procedures, and methodology pertaining to the field.
- **Design experiments in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the design of experimental protocols and the technical conduct of experimentation related to his/her research.
- **Demonstrate appropriate communication skills**
  - The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.
- **Identify problems in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the identification of meaningful problems in the pharmaceutical sciences and the design of and implementation of appropriate problem-solving methods.

## Academic regulations

### Registration

While most students register for the first semester beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

### Financial assistance

Graduate students in the pharmaceutical sciences may receive support via teaching assistantships, research assistantships or fellowships. The American Foundation for Pharmaceutical Education provides support to eligible applicants for graduate study in the pharmaceutical sciences. Students pursuing the master's degree will not be supported by university teaching assistantships.

### The student's adviser and the advisory committee

The departmental graduate program will advise students until a permanent adviser has been chosen. During their first semester, new graduate students are required to arrange interviews with each graduate faculty member of their major department to discuss research projects. The selection of an adviser and a research project are made in accordance with the rules and procedures of the student's department. The adviser will arrange for the appointment of the student's advisory committee. The responsibilities of the adviser and the advisory committee are described in the School of Pharmacy section of this bulletin.

### Requirements for graduate degrees

Graduate students in the pharmaceutical sciences must satisfy the graduate degree requirements described in the School of Pharmacy section of this bulletin. In some

cases, more stringent requirements are imposed. These are described in detail in departmental graduate student/rule handbooks, which are issued to all students.

All graduate students are required to attend seminars in their own discipline and are encouraged to attend seminars of interest in other departments. Students are required to present seminars satisfactory to the faculty.

Graduate students are expected to devote maximum effort to the pursuit of their education. During normal working hours, graduate students are expected to be working on their research projects when they are not in class. Graduate students who are progressing satisfactorily may be granted permission to take outside employment during evenings or weekends.

### Graduate program admission requirements

General requirements pertaining to the graduate program in pharmaceutical sciences follow the same guidelines for graduate studies at VCU.

Admission to the graduate program in pharmaceutical sciences is open to students having a Doctor of Pharmacy degree, or bachelor's degree in pharmacy, chemistry, biochemistry, biology, premed, engineering or a related science. Exceptions to this statement may apply to students enrolled in the Pharm.D. curriculum who wish to apply for the combined Pharm.D. and Ph.D. degree. Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination (GRE), letters of recommendation and, where applicable, TOEFL scores. The current requirement for the GRE exam is that all applicants take the General Test containing the Mathematical Reasoning portion.

Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

## Graduate curriculum

### Pharmaceutical sciences core

The following courses or course areas are required of all graduate students enrolled in the pharmaceutical sciences graduate program prior to graduation. Courses and course areas that are similar to those listed and have been taken prior to entry in the program may satisfy the requirement and courses other than those listed may be substituted. The appropriate graduate program director and department chair must approve acceptance of courses and course areas that are not on the following list.

1. PCEU/MEDC 607-608 Introduction to Pharmaceutical Sciences
2. MICR 512 Laboratory Safety (pharmacy administration graduate students are not required to take this course)
3. Ethics (OVPR 601)
4. Seminar (MEDC 690, PCEU 690, PHAR 690)
5. Directed research (MEDC 697, PCEU 697, PHAR 697)

### Medicinal chemistry specialization

### Admission requirements summary

Pharmaceutical Sciences, Doctor of Philosophy (Ph.D.)			
Indicate specialization: medicinal chemistry			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Jan 1 for medicinal chemistry track	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

Medicinal chemistry, an amalgamation of chemistry and the life sciences, is a multidisciplinary field that applies chemical (i.e., synthetic, analytical, theoretical and/or physical chemistry) principles to investigations of biologically active substances that include therapeutically useful drugs, natural products, toxins and drugs of abuse. Investigations may be focused on identification of biological mechanisms of action, rational drug design and synthesis, metabolism studies, identification of pharmacological tools, or the development of techniques necessary to perform such studies. The discipline requires an understanding of both the chemical and biological processes involved; thus, in addition to a solid background in chemistry, the medicinal chemist is required to be versed in

biological sciences such as biochemistry, pharmacology, toxicology, molecular biology, enzyme mechanisms, receptor theory and/or neurochemistry, depending upon the student's interests.

In addition to research, the curriculum consists of two general components: core courses and elective courses. All doctoral students are required to take core courses that include: medicinal chemistry (MEDC 591 and 601), advanced medicinal chemistry (MEDC 610 or 620), research techniques (MEDC 526), seminar (MEDC 690), biochemistry (BIOC 503 or 504), pharmacology (PHTX 691), advanced organic chemistry (CHEM 604) and molecular modeling (MEDC 541). Specific courses may be recommended on the basis of the result of placement exams administered during the first week of enrollment. Doctoral students also are required to present two non-thesis seminars and a final seminar on their research. Depending upon their interests, and in consultation with their chosen dissertation adviser, students select from a variety of elective courses such that their graduate program can be specifically tailored to their future research or career goals. Doctoral students are required to pass a series of cumulative examinations in order to become eligible to take an oral comprehensive examination based on an original (i.e., non-thesis) research proposal. Most graduate students begin their research during their first year and are encouraged to present the results of their research in oral and poster format at various local, state and other scientific meetings. Most advanced graduate students also participate in laboratory and classroom teaching, and some as tutors, to enhance their teaching proficiency and presentation technique. Well-prepared students, depending upon the nature of their research, should be able to complete all degree requirements in less than two and a half years for a master's degree or within about four and a half years for a doctoral degree.

Research resources include state-of-the-art molecular modeling facilities, synthetic organic chemistry laboratories, X-ray crystallographic equipment and access to high-field nuclear magnetic resonance spectrometers. The department's research interests are closely interwoven with the VCU Institute for Structural Biology and Drug Development, which is housed on the campus and to which many departmental faculty belong.

At present, the research interests of the department include synthesis and biological evaluation of new compounds; molecular-graphics assisted drug design; determination of relationships between chemical structure and biological activity; studies of drug action; receptor binding studies; theoretical studies on structure-activity relationships of drugs, including the use of molecular orbital theory, X-ray crystallography, computational chemistry and molecular connectivity; and rational design of new drugs and studies on drug metabolism.

### Pharmaceutics specialization

### Admission requirements summary

Pharmaceutical Sciences, Doctor of Philosophy (Ph.D.)			
Indicate specialization: pharmaceutics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

Pharmaceutics can be classically defined as the profession concerned with the art and science of formulating medicines into vehicles (tablets, suspensions, aerosols, etc.) that are optimal for the prevention and treatment of disease. This field has become multidisciplinary with increasing knowledge of the variety of factors involved. The study of the time-course disposition of drugs to a host biologic system has emerged as the discipline of pharmacokinetics and is often studied in close conjunction with the related discipline of pharmacodynamics, in which the time course of drug effects is studied.

Biopharmaceutics entails the study of the means and mechanisms by which drugs enter biological systems, while drug metabolism involves study of the rate and specificity of enzymatic chemical conversion of drugs. The sciences of pharmaceutical and biopharmaceutical analysis are concerned with the investigation of chemical and instrumental systems for qualitative and quantitative measurement of drugs. All of these related disciplines can collectively be referred

to as modern pharmaceuticals, which requires a knowledge and interest in mathematics, chemistry, biological sciences and physical sciences.

The curriculum includes core course requirements in statistics, biopharmaceutics, drug metabolism, pharmacokinetics, physical pharmacy, pharmaceutical analysis and seminars in drug development. Depending on the student's interests and major adviser, prerequisites in mathematics, chemistry and pharmacology also may be required. In addition to the core course work, a variety of elective courses are available including biotechnology, advanced courses in pharmacokinetics and pharmaceutical analysis, chemical separations, physiology, spectroscopy, biochemistry, immunology and many others that may be selected in consultation with the student's major adviser. Doctoral students take written and oral comprehensive examinations after completion of their required course work. The highlight of graduate study is conducting the research project. This project involves laboratory or clinical research, and completion is indicated by successful defense of the project.

Funding for research includes both federal and industrial sponsorship and provides a number of resources that are similar to industrial standards. A cell culture and microscopy lab, an aerosol research facility, a 72-bed clinic and a biopharmaceutical analysis laboratory are among the many resources available to students. A state-of-the-art computer laboratory is available and a temporary animal housing facility also is present in the building. Examples of research equipment available to students include: laser light scattering, laser-induced fluorescence, scintillation and gamma counters, atomic spectroscopy, chromatography, mass spectrometry, brain mapping, and differential scanning calorimetry.

### Pharmacotherapy or pharmacoeconomics and health outcomes specializations

#### Admission requirements summary

<b>Pharmaceutical Sciences, Doctor of Philosophy (Ph.D.)</b>			
Indicate specialization: pharmacotherapy or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

The Department of Pharmacotherapy and Outcome Sciences offers two areas of specialization: pharmacotherapy (the safe and effective use of drugs in humans) and pharmacoeconomics and health outcomes (the evaluation of the social and economic impact of drug therapy in humans and in health care systems). Upon admission, graduate students will generally choose one of these two areas of emphasis to study.

Students in pharmacoeconomics and health outcomes usually will elect to study in the areas of gerontology (the study of the aging process), clinical trials and drug development, pharmacogenomics (the study of genetic variability in drug development and prescribing), infectious disease or mental health.

Students in Pharmacy Administration may elect to study pharmacoeconomics (the study of the costs and consequences of the use of pharmaceuticals), pharmacoepidemiology (the study of the utilization and effects of drugs in large numbers of people), or pharmaceutical marketing.

Graduate students also may take suitable courses outside of the department in areas of statistics, clinical trials research, health care administration, pharmacology, economics, computer sciences, public health, public policy, marketing and epidemiology. The selection and scope of the external course work will depend on student needs and research interests.

Currently, research interest in the faculty include nephrology and dialysis, geriatric pharmacokinetics, pharmacoepidemiology, pharmacoeconomics, drug prescribing, gerontology, health education, infectious disease, critical care, cardiology, pharmaceutical marketing, geriatrics, pharmacogenomics, women's health, rheumatology, and critical care. Resources available to student include the VCU Health System, the Center for Drug Studies, several large medical databases and the university.

### Pharmaceutical Sciences, Master of (M.P.S.)

#### Admission requirements summary

<b>Pharmaceutical Sciences, Master of (M.P.S.)</b>			
Indicate specialization: medicinal chemistry, pharmaceutics, pharmacotherapy, or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S. or M.P.S.	Fall preferred	Jan 1 for medicinal chemistry track  May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

The Master of Pharmaceutical Sciences (M.P.S.) is a professional masters degree designed for those students who may not need or desire the laboratory or clinical research portion of the traditional Master of Science in Pharmaceutical Sciences degree. The program normally requires two years to complete. Students may focus on any of the various areas of specialization within the School of Pharmacy that are offered to M.S. students.

Admission, course requirements and other procedures are as described for the M.S. in Pharmaceutical Sciences, with the difference between the programs being the form of the final project. The M.P.S. replaces the traditional clinically or laboratory-based research project with a capstone literature-based review. This capstone literature requirement will consist of a review of current literature in a specialty area that is chosen in conjunction with the students adviser and followed by completion of a literature review manuscript suitable for publication.

#### Student learning outcomes

- **Knowledge of research in pharmaceutical sciences**
  - The candidate should demonstrate a general knowledge of the elements of the pharmaceutical sciences and a detailed knowledge of his/her area of research, including an appropriate familiarity with the research literature, policies and procedures, and methodology pertaining to the field.
- **Design experiments in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the design of experimental protocols and the technical conduct of experimentation related to his/her research.
- **Demonstrate appropriate communication skills**
  - The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.
- **Identify problems in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the identification of meaningful problems in the pharmaceutical sciences and the design of and implementation of appropriate problem-solving methods.

### Medicinal chemistry specialization

#### Admission requirements summary

<b>Medicinal chemistry specialization</b>			
Indicate specialization: medicinal chemistry			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S. or M.P.S.	Fall preferred	Jan 1 for medicinal chemistry track	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

Medicinal chemistry, an amalgamation of chemistry and the life sciences, is a multidisciplinary field that applies chemical (i.e., synthetic, analytical, theoretical and/or physical chemistry) principles to investigations of biologically active



substances that include therapeutically useful drugs, natural products, toxins and drugs of abuse. Investigations may be focused on identification of biological mechanisms of action, rational drug design and synthesis, metabolism studies, identification of pharmacological tools, or the development of techniques necessary to perform such studies. The discipline requires an understanding of both the chemical and biological processes involved; thus, in addition to a solid background in chemistry, the medicinal chemist is required to be versed in biological sciences such as biochemistry, pharmacology, toxicology, molecular biology, enzyme mechanisms, receptor theory and/or neurochemistry, depending upon the student's interests.

In addition to research, the curriculum consists of two general components: core courses and elective courses. All master's students are required to take core courses that include: medicinal chemistry (MEDC 591 and 601), advanced medicinal chemistry (MEDC 610 or 620), research techniques (MEDC 526), seminar (MEDC 690), biochemistry (BIOC 503 or 504), pharmacology (PHTX 691), advanced organic chemistry (CHEM 604) and molecular modeling (MEDC 541). Specific courses may be recommended on the basis of the result of placement exams administered during the first week of enrollment. Master's candidates also are required to present one non-thesis seminar and a final seminar on their research. Depending upon their interests, and in consultation with their chosen dissertation adviser, students select from a variety of elective courses such that their graduate program can be specifically tailored to their future research or career goals. Most graduate students begin their research during their first year and are encouraged to present the results of their research in oral and poster format at various local, state and other scientific meetings. Most advanced graduate students also participate in laboratory and classroom teaching, and some as tutors, to enhance their teaching proficiency and presentation technique. Well-prepared students, depending upon the nature of their research, should be able to complete all master's degree requirements within approximately two and a half years.

Research resources include state-of-the-art molecular modeling facilities, synthetic organic chemistry laboratories, X-ray crystallographic equipment and access to high-field nuclear magnetic resonance spectrometers. The department's research interests are closely interwoven with the VCU Institute for Structural Biology and Drug Development, which is housed on the campus and to which many departmental faculty belong.

At present, the research interests of the department include synthesis and biological evaluation of new compounds; molecular-graphics assisted drug design; determination of relationships between chemical structure and biological activity; studies of drug action; receptor binding studies; theoretical studies on structure-activity relationships of drugs, including the use of molecular orbital theory, X-ray crystallography, computational chemistry and molecular connectivity; and rational design of new drugs and studies on drug metabolism.

## Pharmaceutics specialization

### Admission requirements summary

Pharmaceutics specialization			
Indicate specialization: pharmaceutics			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S. or M.P.S.	Fall preferred	May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

Pharmaceutics can be classically defined as the profession concerned with the art and science of formulating medicines into vehicles (tablets, suspensions, aerosols, etc.) that are optimal for the prevention and treatment of disease. This field has become multidisciplinary with increasing knowledge of the variety of factors involved. The study of the time-course disposition of drugs to a host biologic system has emerged as the discipline of pharmacokinetics and is often studied in close conjunction with the related discipline of pharmacodynamics, in which the time course of drug effects is studied.

Biopharmaceutics entails the study of the means and mechanisms by which drugs enter biological systems, while drug metabolism involves study of the rate and specificity of enzymatic chemical conversion of drugs. The sciences of pharmaceutical and biopharmaceutical analysis are concerned with the

investigation of chemical and instrumental systems for qualitative and quantitative measurement of drugs. All of these related disciplines can collectively be referred to as modern pharmaceuticals, which requires a knowledge and interest in mathematics, chemistry, biological sciences and physical sciences.

The curriculum includes core course requirements in statistics, biopharmaceutics, drug metabolism, pharmacokinetics, physical pharmacy, pharmaceutical analysis and seminars in drug development. Depending on the student's interests and major adviser, prerequisites in mathematics, chemistry and pharmacology also may be required. In addition to the core course work, a variety of elective courses are available including biotechnology, advanced courses in pharmacokinetics and pharmaceutical analysis, chemical separations, physiology, spectroscopy, biochemistry, immunology and many others that may be selected in consultation with the student's major adviser. The highlight of graduate study is conducting the research project. This project involves laboratory or clinical research, and completion is indicated by successful defense of the project.

Funding for research includes both federal and industrial sponsorship and provides a number of resources that are similar to industrial standards. A cell culture and microscopy lab, an aerosol research facility, a 72-bed clinic and a biopharmaceutical analysis laboratory are among the many resources available to students. A state-of-the-art computer laboratory is available and a temporary animal housing facility also is present in the building. Examples of research equipment available to students include: laser light scattering, laser-induced fluorescence, scintillation and gamma counters, atomic spectroscopy, chromatography, brain mapping, and differential scanning calorimetry.

## Pharmacotherapy or pharmacoeconomics and health outcomes

### Admission requirements summary

Pharmacotherapy or pharmacoeconomics and health outcomes			
Indicate specialization: pharmacotherapy or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S. or M.P.S.	Fall preferred	May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

The Department of Pharmacotherapy and Outcomes Science offers two areas of specialization: pharmacotherapy (the safe and effective use of drugs in humans) and pharmacoeconomics and health outcomes (the evaluation of the social and economic impact of drug therapy in humans and in health care systems). Upon admission, graduate students will generally choose one of these two areas of emphasis to study.

Students in pharmacotherapy usually will elect to study in the areas of gerontology (the study of the aging process), clinical trials and drug development, pharmacogenomics (the study of genetic variability in drug development and prescribing), infectious disease, or mental health.

Students in pharmacoeconomics and health outcomes may elect to study pharmacoeconomics (the study of the costs and consequences of the use of pharmaceuticals), pharmacoepidemiology (the study of the utilization and effects of drugs in large numbers of people), or pharmaceutical marketing.

Graduate students also may take suitable courses outside of the department in areas of statistics, clinical trials research, health care administration, pharmacology, economics, computer sciences, public health, public policy, marketing and epidemiology. The selection and scope of the external course work will depend on student needs and research interests.

Currently, research interest in the faculty include nephrology and dialysis, geriatric pharmacokinetics, pharmacoepidemiology, pharmacoeconomics, drug prescribing, gerontology, health education, infectious disease, critical care, cardiology, pharmaceutical marketing, geriatrics, pharmacogenomics, womens health, rheumatology, and critical care. Resources available to student include the VCU Health System, the Center for Drug Studies, several large medical databases and the university.

## Pharmaceutical Sciences, Master of Science (M.S.)

**Admission requirements summary**

<b>Pharmaceutical Sciences, Master of Science (M.S.)</b> Indicate specialization: medicinal chemistry, pharmaceuticals, pharmacotherapy, or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S. or M.P.S.	Fall preferred	Jan 1 for medicinal chemistry track  May 1 (Submission of application by Dec 1 highly recommended)	GRE
<b>Special requirements:</b> International applicants must complete the TOEFL and international admissions application.			

The school offers programs of graduate study leading to the degree of Master of Science. Students may specialize in pharmaceuticals, medicinal chemistry, pharmacotherapy, or pharmacoeconomics and health outcomes.

**Student learning outcomes**

- **Knowledge of research in pharmaceutical sciences**
  - The candidate should demonstrate a general knowledge of the elements of the pharmaceutical sciences and a detailed knowledge of his/her area of research, including an appropriate familiarity with the research literature, policies and procedures, and methodology pertaining to the field.
- **Design experiments in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the design of experimental protocols and the technical conduct of experimentation related to his/her research.
- **Demonstrate appropriate communication skills**
  - The candidate should demonstrate that an appropriate level of oral, written and visual communication skills have been acquired.
- **Identify problems in pharmaceutical sciences**
  - The candidate should demonstrate an appropriate level of skill in the identification of meaningful problems in the pharmaceutical sciences and the design of and implementation of appropriate problem-solving methods.

**Academic regulations****Registration**

While most students register for the first semester beginning in August, arrangements may be made to initiate graduate work at other times during the academic year.

**Financial assistance**

Graduate students in the pharmaceutical sciences may receive support via teaching assistantships, research assistantships or fellowships. The American Foundation for Pharmaceutical Education provides support to eligible applicants for graduate study in the pharmaceutical sciences. Students pursuing the master's degree will not be supported by university teaching assistantships.

**The student's adviser and the advisory committee**

The departmental graduate program will advise students until a permanent adviser has been chosen. During their first semester, new graduate students are required to arrange interviews with each graduate faculty member of their major department to discuss research projects. The selection of an adviser and a research project are made in accordance with the rules and procedures of the student's department. The adviser will arrange for the appointment of the student's advisory committee. The responsibilities of the adviser and the advisory committee are described in the School of Pharmacy section of this bulletin.

**Requirements for graduate degrees**

Graduate students in the pharmaceutical sciences must satisfy the graduate degree requirements described in the School of Pharmacy section of this bulletin. In some

cases, more stringent requirements are imposed. These are described in detail in departmental graduate student/rule handbooks, which are issued to all students.

All graduate students are required to attend seminars in their own discipline and are encouraged to attend seminars of interest in other departments. Students are required to present seminars satisfactory to the faculty.

Graduate students are expected to devote maximum effort to the pursuit of their education. During normal working hours, graduate students are expected to be working on their research projects when they are not in class. Graduate students who are progressing satisfactorily may be granted permission to take outside employment during evenings or weekends.

**Graduate program admission requirements**

General requirements pertaining to the graduate program in pharmaceutical sciences follow the same guidelines for graduate studies at VCU.

Admission to the graduate program in pharmaceutical sciences is open to students having a Doctor of Pharmacy degree, or bachelor's degree in pharmacy, chemistry, biochemistry, biology, premed, engineering or a related science. Exceptions to this statement may apply to students enrolled in the Pharm.D. curriculum who wish to apply for the combined Pharm.D. and Ph.D. degrees. Acceptance is based upon undergraduate performance, satisfactory scores on the Graduate Record Examination (GRE), letters of recommendation and, where applicable, TOEFL scores. The current requirement for the GRE exam is that all applicants take the General Test containing the Mathematical Reasoning portion.

Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

**Core curriculum**

The following courses or course areas are required of all graduate students enrolled in the pharmaceutical sciences graduate program prior to graduation. Courses and course areas that are similar to those listed and have been taken prior to entry in the program may satisfy the requirement and courses other than those listed may be substituted. The appropriate graduate program director and department chair must approve acceptance of courses and course areas that are not on the following list.

1. PCEU/MEDC 607-608 Introduction to Pharmaceutical Sciences
2. MICR 512 Laboratory Safety (pharmacy administration graduate students are not required to take this course)
3. Ethics (OVPR 601)
4. Seminar (MEDC 690, PCEU 690, PHAR 690)
5. Directed research (MEDC 697, PCEU 697, PHAR 697)

**Medicinal chemistry specialization****Admission requirements summary**

<b>Medicinal chemistry specialization</b> Indicate specialization: medicinal chemistry			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
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biology, enzyme mechanisms, receptor theory and/or neurochemistry, depending upon the student's interests.

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## Pharmaceutics specialization

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## Pharmacotherapy or pharmacoeconomics and health outcomes

### Admission requirements summary

Pharmacotherapy or pharmacoeconomics and health outcomes			
Indicate specialization: pharmacotherapy or pharmacoeconomics and health outcomes			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
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## Pharmacy, Doctor of (Pharm.D.)

The school offers the Doctor of Pharmacy degree as a professional degree program. Students must complete a minimum of three years of prerequisite course work prior to admission. The Doctor of Pharmacy degree is awarded after four years of study.

## Accreditation and Complainant policy

The Doctor of Pharmacy degree program at the Virginia Commonwealth University School of Pharmacy is fully accredited by the Accreditation Council

for Pharmacy Education (ACPE), 20 N. Clark St., Suite 2500, Chicago, IL 60602-5109. Accreditation standards are available in the school's Office of Admissions and Student Services and via the ACPE website at [www.acpe-accredit.org](http://www.acpe-accredit.org). Additionally, the school is a member of the American Association of Colleges of Pharmacy.

#### Complainant policy

ACPE has an obligation to assure itself that any institution that seeks accreditation status for its professional degree program conducts its affairs with honesty and frankness. Students who have complaints about the school's ability to meet accreditation standards or adhere to ACPE policies and procedures shall be submitted in writing to the Associate Dean for Admissions and Student Services, VCU School of Pharmacy, 410 N. 12th St., Room 500, Richmond, VA 23298-0581. The complainant is welcome to make an appointment to meet with school administrators to discuss his or her complaints and options for resolution. If they are not satisfied with the response by the school's representative/s, then complainants may contact ACPE at 135 S. LaSalle St., Suite 4100, Chicago, IL 60603 or [www.acpe-accredit.org/complaints](http://www.acpe-accredit.org/complaints) with a complaint. A record of written complaints about the school's adherence to ACPE accreditation standards or policies and procedures will be maintained for ACPE to review at the time of an accreditation site visit.

#### Licensing and reciprocity

The Virginia Board of Pharmacy holds qualifying examinations for licensure on an ongoing basis throughout the year. Applicants for the examination must present evidence that their first professional degree was granted by a school of pharmacy recognized by the board. This school is among those recognized. Applicants must also present evidence of completion of 1,500 hours of practical experience. Completion of the school's Pharm.D. program satisfies this requirement. APPE rotations completed outside of the United States may not be counted toward the 1,500-hour requirement.

Those students who intend to be licensed in Virginia should contact the Virginia Board of Pharmacy, 9960 Mayland Dr., Suite 300, Richmond, VA 23233-1463.

#### Admission requirements

Applicants for admission to the School of Pharmacy must attend an accredited college for at least three academic years (nine quarters or six semesters) and complete the specified course requirements prior to admission.

Students planning to seek a degree in pharmacy upon high school graduation should plan their high school program to meet the requirements for admission in the college where they will take the prerequisite work for admission into the VCU School of Pharmacy.

The minimal admission requirements are listed. (Meeting these requirements does not, however, guarantee acceptance into the VCU School of Pharmacy.)

- A. Three letters of reference are required. These include a reference from a science professor, a health professional (pharmacist preferred) and an employer.
- B. An official transcript from the student's primary college and all colleges attended must be supplied. Applications are considered by the Admissions Committee only after transcripts on file show completion of no less than four semesters or six quarters of college work. When offered, an acceptance is contingent upon satisfactory completion of specific work that may be in progress.
- C. Applicants must present the required credits in the following subject areas for a total of at least 90 semester hours.

#### Semester hours

General biology (lecture and laboratory)	8
College chemistry (lecture and laboratory)	8
Organic chemistry (lecture and laboratory)	8
Physics (lecture and laboratory)	4
Human anatomy*	3
Human physiology	3
Microbiology*	3
Biochemistry	3

English	6
Calculus	3
Statistics	3
Public speaking	3
Biomedical science foundation and elective courses	35

#### Minimum 90

\* One hour of lab in these subjects also preferred

- D. Due to the importance of a strong biomedical science foundation for success in the Doctor of Pharmacy program, some or all of the courses listed below are recommended.
 

Genetics or molecular biology	3
Immunology	3
Cell biology	3
- E. The electives will comprise a balanced program in social sciences, arts and humanities. Electives in computer science, economics, psychology and sociology are highly recommended. Others include political science, anthropology, history, foreign languages, philosophy and religious studies.
- F. Credits earned through Advanced Placement Tests of the College Board or International Baccalaureate are not acceptable in meeting the total semester-hours requirement. Such AP credits may excuse a student from taking a specific non-science course such as English, but the credits must be made up through additional electives. AP credits in science (e.g., biology, chemistry) or mathematics (e.g., calculus) must be made up with courses in kind. Generally, this requirement is achieved by taking advanced-level courses (e.g., physical chemistry as a substitute for AP/IB credit in general chemistry).
- G. Dual-credit courses taken during high school may be considered acceptable for transfer credit pending review of college transcripts.
- H. Applicants must have earned a creditable average (C or better) overall, and in the courses specified, to meet minimum academic requirements for admission.
- I. Applicants for admission must apply online through PharmCAS, a centralized application service for pharmacy schools. The PharmCAS Web site at [www.pharmcas.org](http://www.pharmcas.org) provides further details.
- J. An on-campus interview is mandatory for admission consideration.
- K. Applicants are required to take the Pharmacy College Admission Test (PCAT) before admission.
- L. Applicants whose first language is not English and who have not lived in the U.S. for at least 10 years should submit scores from the Test of English as a Foreign Language, the Test of Spoken English or other proof that their command of English is sufficient to allow successful completion of all requirements of the program.
- M. Students are admitted only at the start of the academic year. An applicant must complete two full years of the academic prerequisites before an application can be reviewed. The Admissions Committee begins reviewing applications during September of the year preceding admission. It is to the applicant's advantage to apply during the fall of the year before expected enrollment in the School of Pharmacy. Applicants are accepted pending satisfactory completion of all prerequisite courses. Notification usually occurs in early spring.
- N. Prior to enrolling, successful applicants must meet the [immunization requirements](#) set forth in the "Professional study" section of this bulletin. Prior to entering the fourth professional year, students must satisfy all university and APPE site immunization requirements.
- O. Applicants exercising the early decision option for admission to the VCU School of Pharmacy must submit their fee and official transcript from all postsecondary institutions ever attended to PharmCAS by the specified

deadline. Applicants whose materials are not received or whose applications are incomplete by these deadlines will be ineligible for the early decision option, and they will be deferred to regular admission status. Applicants exercising the early decision option are expected to make a commitment to attend the VCU School of Pharmacy if accepted. If an acceptance offer is not made under the early decision option, the applicant is then moved to regular admission status and continues to be evaluated for admission during the remainder of the admission cycle. The applicant is then free to apply to other schools of pharmacy under the regular admission procedure.

- P. Applicants pursuing “regular admission” to the VCU School of Pharmacy must submit the electronic application, letters of reference and transcripts to PharmCAS by the specified deadline. Applicants who do not meet these PharmCAS deadlines will be ineligible for admission to the VCU Doctor of Pharmacy degree program.
- Q. Applicants to the program must be U.S. citizens or permanent residents of the U.S.

The following criteria are considered in judging applicants:

- College attended
- Academic workload carried
- College overall GPA
- Chemistry, biology and math proficiency
- Outside activities and achievements in high school and college
- PCAT scores
- Written and oral communication skills
- Extent of exposure to pharmacy practice
- Extent of exposure to other health disciplines
- Personal interview

Time demands for this full-time program are rigorous. In general, the first three years require a Monday–Friday (8 a.m.–6 p.m.) commitment for lectures, conferences, laboratories and off-campus visits to area pharmacy practice sites. The fourth year is devoted to experiential learning at sites located throughout Virginia. Students enrolling in the four-year professional degree program must agree to the possibility of being assigned to sites beyond the Richmond metropolitan area (e.g., eastern, northern or western Virginia). Candidates must assess personal obligations prior to seeking application.

VCU does not discriminate against qualified applicants for admission who have disabilities, and seeks to provide reasonable accommodation to applicants and admitted students who identify themselves as having disabilities. Academic requirements essential to the program or to directly related licensing requirements will not be substituted. Upon acceptance into the program, students in need of accommodation may contact the MCV Campus coordinator for students with disabilities at (804) 828-9782 to discuss their needs.

Further information may be obtained by writing to the Chair, Admissions Committee, School of Pharmacy, Virginia Commonwealth University, P.O. Box 980581, Richmond, VA 23298-0581. Applicants also may call a toll-free telephone number, (800) 330-0519 for assistance.

## Student learning outcomes

Pharm.D. students will demonstrate competencies in appropriate medication use and quality improvement; communication abilities; critical-thinking; decision-making; evidence-based practice; inter-professional collaborative practice; medication distribution and control systems management; patient-centered care; patient pharmacotherapy assessment; pharmacotherapy planning and decision-making; pharmacotherapy practice management; professionalism; responsible use of values; ethical principles; self-direction; lifelong learning; social awareness and responsibility; and appropriate NAPLEX scores.

## Curriculum

### P1 year

	Credits
<b>Fall</b>	
MEDC 527 Basic Pharmaceutical Principles for the Practicing Pharmacist	3.0
MEDC 533 Pharmacognosy	2.0
PCEU 507 Pharmaceutics and Biopharmaceutics I	3.0

PHAR 509 Evidence-based Pharmacy I: Introduction to Pharmacy Information Skills	2.0
PHAR 512 Health Promotion and Disease Prevention	2.0
PHAR 523 Foundations I	1.5
PHAR 525 Communications in Pharmacy Practice	2.0
PHAR 545 The U.S. Health Care System	2.0
PHAR 547 Managing Professional Patient-centered Practice	1.5
PHAR 771 Student Pharmacist Professionalism	continues
<b>Total</b>	<b>19.0</b>

### Spring

MEDC 553 Clinical Therapeutics Module: Introduction to Medicinal Chemistry*	1.0
PCEU 508 Pharmacokinetics*	3.0
PCEU 509 Pharmaceutics and Biopharmaceutics II	3.0
PHAR 513 Contemporary Pharmacy Practice	2.0
PHAR 524 Foundations II	1.5
PHAR 526 Community Pharmacy Practice Management I	2.0
PHAR 529 Clinical Therapeutics Module: Introduction to Special Populations*	2.0
PHAR 530 Introductory Pharmacy Practice Experience: Community Practice	4.0
PHAR 771 Student Pharmacist Professionalism	continues
PHTX 606 Clinical Therapeutics: Introduction to Pharmacology (Pharmacy)*	1.0
<b>Total</b>	<b>19.5</b>

### P2 year

#### Fall

MEDC 543 Clinical Chemistry for the Pharmacist	2.0
PHAR 534 Foundations III	1.0
PHAR 543 Scholarship I	continues
PHAR 541 Patient Assessment in Pharmacy Practice	2.0
PHAR 544 Clinical Therapeutics Module: Cardiovascular*	4.5
PHAR 555 Clinical Therapeutics Module: Endocrinology*	2.5
PHAR 603 Clinical Therapeutics Module: Respiratory/Immunology*	3.0
PHAR 565 Evidence-based Pharmacy II: Research Methods and Statistics*	2.5
PHAR 622 Epidemiology for Pharmacy Practice*	2.0
PHAR 771 Student Pharmacist Professionalism	continues
<b>Total</b>	<b>19.5</b>

#### Spring

MEDC 542 Biotechnology-derived Therapeutic Agents	1.0
PCEU 615 Applied Pharmacokinetics	2.5
PHAR 532 Introductory Pharmacy Practice Experience: Hospital Practice	3.0
PHAR 535 Foundations IV	1.0
PHAR 543 Scholarship I	1.0
PHAR 566 Evidence-based Pharmacy III: Drug Literature Evaluation	2.0
PHAR 604 Clinical Therapeutics Module: Infectious Diseases*	4.5
PHAR 606 Clinical Therapeutics Module: Nephrology/Urology*	2.0
PHAR 661 Institutional Pharmacy Management	2.0
PHAR 623 Patient Medication Safety*	2.0
PHAR 771 Student Pharmacist Professionalism	continues
<b>Total</b>	<b>21.0</b>

### P3 year

#### Fall

PHAR 550 Scholarship III	continues
PHAR 540 Self-Care and Alternative and Complementary Treatments	2.5
PHAR 549 Pharmacogenetics and Pharmacogenomics*	1.0
PHAR 602 Clinical Therapeutics Module: Psychiatry*	3.0
PHAR 605 Clinical Therapeutics Module: Hematology/Oncology*	2.5
PHAR 607 Clinical Therapeutics Module: Dermatology, EENT*	1.5
PHAR 619 Clinical Therapeutics Module: Women's Health/Bone and Joint*	2.5
PHAR 640 Foundations V	1.0
PHAR 660 Community Pharmacy Practice Management II	2.0
PHAR 771 Student Pharmacist Professionalism	continues



Elective	2.0-3.0
<b>Total</b>	<b>18.0-19.0</b>

**Spring**

PHAR 533 Introductory Pharmacy Practice Experience: Service-learning	0.5
PHAR 550 Scholarship II	2.0
PHAR 621 Pharmacoeconomics	2.0
PHAR 556 Clinical Therapeutics Module: Neurology	4.0
PHAR 618 Clinical Therapeutics Module: Gastrointestinal/Nutrition*	2.5
PHAR 620 Clinical Therapeutics Module: Critical Care/Toxicology*	1.5
PHAR 721 Clinical Therapeutics Module: Integrated Medication Management*	1.0
PHAR 645 Foundations VI	1.0
PHAR 724 Pharmacy Law	2.5
PHAR 771 Student Pharmacist Professionalism	continues
Elective	2.0-3.0
<b>Total</b>	<b>19.0-20.0</b>

**P4 year (over 45 weeks)**

PHAR 760 Acute Care Pharmacy Practice I	5.0
PHAR 761 Advanced Hospital Pharmacy Practice	5.0
PHAR 762 Geriatrics Pharmacy Practice	5.0
PHAR 763 Ambulatory Care Pharmacy Practice	5.0
PHAR 765 Elective I	5.0
PHAR 766 Elective II	5.0
PHAR 768 Advanced Community Pharmacy Practice	5.0
PHAR 771 Student Pharmacist Professionalism	1.0
PHAR 773 Acute Care Pharmacy Practice II	5.0
<b>Total</b>	<b>41.0</b>

\* Course will be taught as a module.

**Academic regulations**

Matriculation in the School of Pharmacy implies a willingness on the part of students to comply with university rules and regulations and to conduct themselves in a manner befitting members of the profession the students seek to enter. The program of study and regulations regarding courses of study, student conduct, etc. are subject to modification without notice. All rules and regulations set forth in this bulletin, as well as other statements issued by administrative officers of the university, apply until further notice.

**Probation**

Students may be placed on probation by either the Admissions Committee or the Academic Performance Committee. Probation is a status indicating that the student's scholarship is deficient and is expected to be improved to a level considered to be satisfactory by the faculty. Students who fail to meet probationary stipulations may expect to have their normal progress through school interrupted. They may be required to repeat a year or to withdraw. Students on probation during the first three years of the professional program are neither allowed to hold an elected office in a student association nor be eligible for nomination as an officer in a student association. Students are not permitted to represent the school in extracurricular activities (e.g., representation at a local, regional or national association meeting, or other professional event). Students are expected to discontinue any outside employment during the academic year. Students are not eligible to pledge a professional fraternity. Students are encouraged to avail themselves of special tutoring and counseling services for improving their academic performance. Additionally, students during the fourth year of the professional program must complete all required and elective advanced pharmacy practice experiential rotations at sites within the VCU School of Pharmacy system and the preceptor must have a current faculty appointment. Students are expected to discontinue any outside employment while completing advanced pharmacy practice experiential rotations. Expiration of probationary status occurs following the equivalent of an academic year (i.e., two consecutive semesters of successful academic performance during the first three professional years and upon the successful completion of all advanced pharmacy practice experiential rotations in the fourth year.

**Outside work**

In general, the faculty believes that students should give first priority to their school work. Students able to maintain academic standing are not restricted with

respect to outside employment. Students in academic difficulty will be advised to cease or drastically curtail any outside employment.

**Honor code**

All students are governed by the honor code and regulations of the VCU Honor System. The VCU Honor System is based on the foundation that Virginia Commonwealth University recognizes that honesty, truth and integrity are values central to its mission as an institution of higher education. In a community devoted to learning, a foundation of honor must exist if that community is to thrive with respect and harmony. Therefore, members of the academic community are required to conduct themselves in accordance with the highest standards of academic honesty and integrity. Additional information is available at [www.students.vcu.edu/judicialaffairs/honorfaqs](http://www.students.vcu.edu/judicialaffairs/honorfaqs).

**Advising program**

Students in the School of Pharmacy seek assistance with academic and personal problems through the school's Office of Admissions and Student Services. Students are provided with information about accessing resources within the school, university and professional community. Also, faculty members serve as mentors to students throughout the four year curriculum.

There is a faculty adviser to the Interfraternity Council as well as an adviser for each of the professional pharmacy fraternities. Each of the student chapters of professional pharmacy organizations within the school also has a designated faculty adviser.

**Attendance regulations**

The following regulations apply specifically to students enrolled in the Doctor of Pharmacy program in all of their required and elective courses offered by departments in the School of Pharmacy.

1. The faculty considers class attendance at lectures to be an important component in the successful acquisition of knowledge and skills required of the Doctor of Pharmacy candidate. Students are strongly encouraged to attend all classes and conferences. An individual faculty member may require attendance in his or her course and establish penalties for those who are absent without an excuse from the dean's office.
2. Attendance at laboratory and prelaboratory classes is mandatory. Students must complete all laboratory assignments before a passing grade can be assigned. An excused absence from the dean's office is required for missing a laboratory or prelaboratory class with the ability to make up the work with credit. Students without an approved absence are still required to make up the work but will not receive credit toward their course grade.
3. Students must take tests (e.g., quizzes, laboratory practicals, examinations) and complete all other assignments at the time designated by the course coordinator. Students must recognize that faculty may give unannounced tests at any time during a course, consistent with documentation in a course syllabus. Students who miss any test in any course without an excused absence from the dean's office will receive a grade of zero for the specific test.
4. Attendance during each assigned clerkship period is mandatory. If a student is unable to attend to required clerkship responsibilities because of illness or other exceptional circumstances, the preceptor must be notified immediately. It is the responsibility of the student to also notify the clerkship director concerning a plan to make up the absence, with the approval of the preceptor. Documentation of the absence and approval to make up the absent time will be maintained in the student's record.
5. Absences may be excused under certain conditions. Requests for excuses for unavoidable absences must be submitted to the dean's office, on an Absence Record form, within 24 hours of returning to the School of Pharmacy. The student must complete the Absence Record form with an explanation for the absence. Further explanation, if necessary, may be provided to the associate dean for admissions and student services. It is a violation of the honor code to make false or misleading statements on the Absence Record form. In the event of an unexcused absence, the student is responsible for all work missed.
6. A guiding principle in determining whether or not an absence will be excused is that the absence is caused by circumstances beyond the student's control. The following are considered valid excuses for being absent from a class or clerkship.

- a. Illness, a medical emergency, a dental emergency. The school normally accepts the student's judgment that the condition was serious enough to justify the absence from class; however, the school reserves the right to require a medical opinion, particularly if the period of absence is prolonged or is repetitive. The school will require a written medical opinion when a student is absent from taking a scheduled test or final examination. If the absence is a result of a medical emergency, the student will be required to sign a written release for the school to obtain documentation from their physician describing the exact nature of the illness or emergency. This record will be submitted to the associate dean for admissions and student services as a confidential document.
- b. Death of a relative or friend. Students will be excused from class to attend funerals. Absence beyond the day of the funeral will be excused for periods of mourning required by a student's religious or cultural tradition, or when a student is too grief-stricken to return immediately to class.
- c. Mandatory court appearance.
- d. Mandatory religious observances. Students who anticipate absences from class because of religious obligations should submit a list of their anticipated absences at the beginning of each semester to the dean's office. The student must also submit an absence form following each absence.
- e. Failure of private, public or university transportation. Students are expected to take reasonable precautions to assure that the transportation method used is fully functional (e.g., maintaining personal automobile, avoiding the last possible return airline flight to Richmond). Proof of transportation failure will be required.
- f. Attendance at professional meetings. Students in good academic standing may receive an excused absence from class to attend a meeting of a professional pharmacy organization. The student must complete an Absence Record form in advance of attending a professional meeting. A policy statement containing eligibility criteria is distributed to all students.

Tardiness is a form of absence that also may be excused using the criteria mentioned above. Students arriving late for a test may be given the test without an excused absence but will not be allowed extra time beyond the scheduled termination of the test. Once a student has completed the test and left the room, late-arriving students will not be permitted to take the test unless the absence is excused.

Absences that are not reported within 24 hours after the student returns to school will be considered unexcused. It is not the responsibility of a faculty member to determine whether an absence is excused. This determination will be made by the dean's office.

Students are expected to make every effort to keep abreast of their assignments during an absence. They should also be prepared to take tests upon their return to the school or at the discretion of the faculty member after considering the student's academic schedule. If, in the opinion of the dean's office, the nature of a student's absence made it impossible for that student to prepare for a test, the student will be granted an extension for taking the test.

A faculty member should not give a make-up test before confirming that a student's absence has been excused. The faculty member usually provides an equivalent make-up test within a reasonable period of time. The type and format of the make-up exam will be determined by the faculty member. Within the framework of the honor code, it may be possible to administer the same examination no more than 48 to 72 hours after the originally scheduled examination. Any make-up examination should be scheduled as soon as possible to avoid impeding the student's academic progress.

### Promotion

Attending pharmacy school is not a right acquired simply by conforming with the entrance requirements and paying tuition and fees. For this reason the dean and the Academic Performance Committee require that marginal or failing performance be improved or that the student withdraw from school. D grades are indicative of marginal performance. Careful consideration is given during the promotions process not only to the student's grades but also to his or her probity, industry and scholastic ability.

These guidelines delineate the course of action to be taken by the committee. Decisions regarding individual students will be made in accordance with these

guidelines. Consideration will be given to pertinent information and extenuating circumstances for individual cases. The following statements present the prominent features of the promotions process.

1. Students are evaluated for progress at the end of each semester. The Academic Performance Committee assesses student progress for each of these periods. At the end of the fourth year the entire faculty will decide whether or not students have satisfied all requirements for graduation. Promotion decisions are based on achievement during the year under review and on the student's overall progress.
2. Students who have passed the work of an academic year with grades of C or better in all courses will ordinarily be advanced to the next higher class.
3. The Academic Performance Committee thoroughly reviews the academic record of each student who fails to pass a course, receives a D grade, does not maintain a GPA of 2.0 or better for the year or semester in question, or is on probation. Following this review, the committee may recommend promotion on a probationary basis, require a repeat of all or a part of previous work, or terminate the student's enrollment.
4. Students who fail two or more courses during the program will be dismissed.
5. A student who earns D grades for six credits or more of class work in any year and/or a GPA of less than 2.0 in any year will be subject to academic probation, dismissal or may be asked to repeat the year.

Students will be subject to academic probation, dismissal or may be asked to repeat the year if they earn more than one D or F grade in any one of the following sequences of related courses: basic health sciences, medicinal chemistry, pharmacy and pharmaceuticals, pharmacotherapeutics, and pharmacy administration.

Students who fail to meet conditions of probation will be required to withdraw or repeat a year's work. Students will not be allowed to repeat more than one year of the curriculum.

A student must have passed all courses from the first three years of the curriculum to qualify for entry into the final year of the program.

### Withdrawal

Students finding it necessary to withdraw from the School of Pharmacy must comply with the provisions for withdrawal set by the university.

The dean of the School of Pharmacy will not approve a request for withdrawal until the student has submitted a letter of resignation.

Students withdrawing without approval and failing to check out laboratory lockers will be assessed a fee and any charges resulting from the need to replenish the contents of the lockers.

### Readmission

Students seeking readmission to the School of Pharmacy will be evaluated on their total academic record. Applicants for readmission to the first professional year will not be given priority over new applicants but must compete with them on an equal basis. Readmission in advanced standing will be considered on a space-available basis.

### Graduation

Students are recommended and approved for the Doctor of Pharmacy degree by the faculty of the School of Pharmacy. Candidates must meet the following requirements:

1. Be of good moral character
2. Satisfactorily complete all the required work in a timely fashion, which will not normally exceed five years from the date of initial enrollment
3. Pay all fees
4. Complete the last year's work for the degree in residence in this school
5. Be present at the commencement-related exercises unless excused in writing and in advance by the dean
6. Satisfactorily complete the minimum number of required advanced practice experience rotations and demonstrate the attainment of minimum competencies

### Financial aid

See the [Professional studies](#) section of this bulletin.

## Courses of instruction

Enrollment in courses included in the Doctor of Pharmacy curricula summarized on the preceding pages requires the approval of the dean of the School of Pharmacy unless the student has been admitted to the Doctor of Pharmacy Program.

### Combined Doctor of Pharmacy (Pharm.D.) and Master of Business Administration (M.B.A.)

The Pharm.D./M.B.A. program seeks to prepare pharmacists for careers that encompass pharmacy and business theories and principles. The program is designed to take advantage of efficiencies and electives in both the Pharm.D. and M.B.A. programs. Students in the combined program can earn both degrees and save as much as one year or more over the time required for enrolling in the programs separately.

Students may be admitted in the program during their first year of enrollment in the Pharm.D. program. Applicants must be an enrolled student in the Pharm.D. program, have demonstrated a good academic record and have successfully completed the Graduate Management Admission Test (GMAT).

To get both degrees, students will take all pharmacy courses unless waived, the seven business foundation courses, the nine M.B.A. core courses and three elective courses. The elective M.B.A. courses may be taken from pharmacy administration courses at the 600 level, and a combination of a business seminar course and an elective advanced pharmacy practice experience in pharmacy management. The business foundation courses can be taken during the first two years in the pharmacy program with summer session(s). The M.B.A. core courses can be taken during the third and fourth years in the pharmacy program. The business electives can be taken during the fourth and fifth years in the combined program.

Students interested in pursuing the Pharm.D./Master of Business Administration dual degree program must first obtain admission to the Pharm.D. program. Admitted Pharm.D. students who desire to add the M.B.A. degree to their program then must apply to the M.B.A. program. Upon admission to the M.B.A. program, a Pharm.D. student will be considered a dual-degree seeking student. Students generally will register for a mix of School of Business courses and School of Pharmacy courses in their fourth, fifth and sixth semesters of the pharmacy program.

Students categorized as a Pharm.D. student will be charged tuition and fees from the School of Pharmacy and will be eligible to receive financial aid awards as Pharm.D. students. Student categorized as M.B.A. students will be charged tuition and fee rates as a graduate student and be eligible to receive financial awards as a graduate student.

## Admission requirements

Students interested in pursuing the Pharm.D./M.B.A. dual degree program must first obtain admission to the Pharm.D. program. Admitted Pharm.D. students who desire to add the M.B.A. degree to their program must apply to the M.B.A. program using the Application for Graduate Study found at the Graduate School Web site: [www.graduate.vcu.edu](http://www.graduate.vcu.edu).

A complete application to the M.B.A. program includes:

- Application for Graduate Study and application fee.
- Request for In-state Tuition Rates (as applicable).
- Three letters of reference, including a letter of support from the School of Pharmacy.
- Official transcripts from all universities previously attended, including current VCU transcript.
- Current GMAT test score.
- Interview with director of graduate programs in School of Business.

## Tuition and financial aid considerations

Upon admission to the M.B.A. program, a Pharm.D. student will be considered a dual degree-seeking student. Students will most often register for a mix of School of Business courses and School of Pharmacy courses each semester of the program. The School of Pharmacy and School of Business have agreed that dual degree-seeking students will be considered Pharm.D. students in years P1, P2, P3

and P5. Students will be considered M.B.A. (graduate) students in year P4. When categorized as Pharm.D., a student will be charged tuition and fees from the School of Pharmacy and will be eligible to receive financial aid awards as a Pharm.D. student. When categorized M.B.A. (graduate) a student will be charged the graduate tuition and fee rate of the Monroe Park Campus and will be eligible to receive financial aid awards as a graduate student.

## Curriculum requirements

To earn both degrees, students will complete the following requirements. For the Pharm.D. program, all required Pharm.D. prerequisite and required courses must be taken unless waived by the appropriate representative of the School of Pharmacy. For the M.B.A. program requirements, the foundation courses listed below must be taken. Courses may be waived for students who have taken the equivalent material at the undergraduate level.

ACCT 507 Fundamentals of Accounting  
 ECON 500 Concepts in Economics  
 FIRE 520 Financial Concepts of Management  
 MGMT 524 Statistical Elements of Quantitative Management  
 MGMT 530 Fundamentals of the Legal Environment of Business  
 MGMT 540 Management Theory and Practice  
 MKTG 570 Concepts and Issues in Marketing

The following nine courses of the M.B.A. Advanced Program will be required for each student:

### Semester one: (to be taken at same time)

ECON 610 Managerial Economics  
 MGMT 641 Organization Leadership and Project Team Management

### Semester two:

FIRE 623 Financial Management

### Remainder of the Advanced Program

ACCT 608 Managerial Accounting  
 INFO 661 Information Systems for Managers  
 INFO 664 Information Systems for Business Intelligence  
 MGMT 642 Business Policy (to be taken after completion of 15 credits of advanced program)  
 MGMT 675 Operations Management  
 MKTG 671 Marketing Management

### Electives

Three M.B.A. elective courses may be taken in the School of Business or by completing approved Pharm.D. electives and/or an applied pharmacy practice experience in pharmacy management, as individually approved by the director of graduate programs in the School of Business.

The key to successful completion of the Pharm.D./M.B.A. dual degree program will be timely and continuing advising from both the appropriate School of Pharmacy adviser and the director of graduate programs in the School of Business. For this reason, students are encouraged to seek admission to the dual degree program as early in their Pharm.D. program as possible.

### Combined Certificate in Aging Studies (Post-baccalaureate graduate certificate) and Doctor of Pharmacy (Pharm.D.)

The Department of Gerontology in cooperation with the School of Pharmacy provides an opportunity for students in the Doctor of Pharmacy program to complete the certificate. This 21-credit program is designed to integrate the required independent study project in gerontology into the Pharm.D. curriculum's clerkship assignment.

	Credits
GRTY 601 Biological and Physiological Aging	3
GRTY/PSYC 602 Psychology of Aging	3
GRTY 603 Social Gerontology	3
GRTY 692 Independent Studies	2
GRTY elective(s)	3
PHAR 529 Clinical Therapeutics Module III: Introduction to Special Populations	1
PHAR 533 Introductory Pharmacy Practice Experience IV: Clinical Patient Care (service learning)	.5
PHAR 565 Evidence-based Pharmacy II: Research Methods and Statistics	2.5
PHAR 566 Evidence-based Pharmacy III: Drug Literature Evaluation	2
PHAR 721 Clinical Therapeutics Module XVII: Special Populations	1
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### Combined Doctor of Pharmacy (Pharm.D.) and Doctor of Philosophy (Ph.D.)

The combined Pharm.D./Ph.D. program in the School of Pharmacy is a full-time program of professional education that offers an opportunity for advanced study in pharmaceutical sciences. The program recognizes the need for pharmacy practitioners with excellent research skills in clinical, academic, industrial and regulatory environments. The program is designed to take advantage of efficiencies in both the Pharm.D. and Ph.D. curricula and to allow Pharm.D./Ph.D. students to complete the program requirements of both programs after approximately six years, with both degrees being awarded at the same graduation ceremony.

Pharm.D./Ph.D. students can focus on the following research areas within the School of Pharmacy: pharmacotherapy and health outcomes, pharmacokinetics/pharmacodynamics, biopharmaceutical analysis, pharmaceuticals/physical pharmacy, and medicinal chemistry. Students also may focus on pharmacology and toxicology within the School of Medicine. The choice of research area determines the required graduate course requirements.

During their P-2 through P-4 years, Pharm.D./Ph.D. students will complete the required Pharm.D. curriculum using graduate courses in lieu of required Pharm.D. courses and Pharm.D. electives. In addition, Pharm.D./Ph.D. students will engage in graduate research during the summer semesters following the P2 and P-4 years. After their P-4 year and beyond (G-1 and G-2) Pharm.D./Ph.D. students will complete both their graduate course requirements and Ph.D. dissertation research project as full-time graduate students. Stipends and tuition reimbursement may be provided for Pharm.D./Ph.D. students serving as graduate teaching or research assistants.

Students may be admitted into the combined Pharm.D./Ph.D. program their first or second year (P-1 and P-2) of enrollment in the Pharm.D. program. Applicants must demonstrate a good academic record, experience in research (e.g., during summer research fellowships after their P-1 year with one of the School of Pharmacy's graduate faculty) and successful completion of the Graduate Record Examination. Additionally their application must be sponsored by a graduate faculty member as their prospective major graduate adviser. Appropriate progress of Pharm.D./Ph.D. students in the program will be assessed by the Pharm.D./Ph.D. Subcommittee after each semester until successful completion of their comprehensive exams.

### Combined Doctor of Pharmacy (Pharm.D.) and Master of Public Health (M.P.H.)

The School of Pharmacy and the Division of Epidemiology in the Department of Family Medicine and Population Health in the School of Medicine offer a dual degree program through which students earn both the Pharm.D. and M.P.H. degrees. This dual degree program offers students the opportunity to achieve a doctorate in pharmacy while also learning about research and the importance of

population health. This five-year program requires students to spend their fourth year pursuing the M.P.H. degree, after which they transition back to pharmacy for advanced practice experiences. Students are required to take 36 of the 45 credits required for the M.P.H. The M.P.H. field study (internship) requirement will be satisfied by Pharm.D. special advanced practice experiences in community health during the fifth year of the program.

Students complete two credits of practical skills work during the P3 year, followed by full immersion in the M.P.H. curriculum in the P4 year. The required M.P.H. capstone project will be completed in a community setting during the P5 year; it will involve a comprehensive project that serves the needs of a professional public health organization and typically involves the development of one or more deliverables. Examples include a disease surveillance project, a needs assessment or program evaluation, or development of a comprehensive suite of patient health education or medication safety materials.

#### Curriculum

Typical course plan for dual degree:

	Credit
<b>P1 fall semester</b>	
MEDC 527 Basic Pharmaceutical Principles for the Practicing Pharmacist	3
MEDC 533 Pharmacognosy	2
PCEU 507 Pharmaceutics and Biopharmaceutics I	3
PHAR 509 Evidence-based Pharmacy I: Drug Information	1
PHAR 512 Health Promotion and Disease Prevention	2.5
PHAR 523 Foundations I	1
PHAR 525 Communications in Pharmacy Practice	2
PHAR 545 The U.S. Health Care System	2.5
PHAR 547 Managing Professional Patient-centered Practice	1.5
PHAR 771 Student Pharmacist Professionalism	continues
	<hr/> 18.5
<b>P1 spring semester</b>	
MEDC 543 Clinical Chemistry for the Pharmacist	2
MEDC 553 Clinical Therapeutics Module I: Introduction to Medicinal Chemistry	1
PCEU 508 Pharmacokinetics	2
PCEU 509 Pharmaceutics and Biopharmaceutics II	2.5
PHAR 513 Contemporary Pharmacy Practice	3.5
PHAR 524 Foundations II	1
PHAR 529 Clinical Therapeutics Module III: Introduction to Special Populations	1
PHAR 530 Introductory Pharmacy Practice Experience: Community Practice	4
PHAR 540 Self-Care and Alternative and Complementary Treatments	3
PHAR 771 Student Pharmacist Professionalism	continues
PHTX 606 Clinical Therapeutics II: Introduction to Pharmacology (Pharmacy)	1
	<hr/> 21
<b>P2 fall semester</b>	
PHAR 534 Foundations III	1
PHAR 543 Scholarship I	continues
PHAR 544 Clinical Therapeutics Module IV: Cardiovascular	4.5
PHAR 549 Biotechnology, Pharmacogenomics and Pharmacogenetics	2
PHAR 555 Clinical Therapeutics Module V: Endocrinology	2.5
PHAR 556 Clinical Therapeutics Module VI: Neurology I	3
PHAR 565 Evidence-based Pharmacy II: Research Methods and Statistics	2.5
PHAR 566 Evidence-based Pharmacy III: Drug Literature Evaluation	2
PHAR 567 Pharmacy Informatics	1.5
PHAR 771 Student Pharmacist Professionalism	continues
	<hr/> 19
<b>P2 spring semester</b>	
PCEU 615 Applied Pharmacokinetics	2
PHAR 532 Introductory Pharmacy Practice Experience: Hospital Practice	3

PHAR 535 Foundations IV	1
PHAR 543 Scholarship I	1
PHAR 601 Clinical Therapeutics Module VII: Neurology II	1
PHAR 602 Clinical Therapeutics Module VIII: Psychiatry	3
PHAR 603 Clinical Therapeutics Module IX: Respiratory/Immunology	3
PHAR 621 Pharmacoeconomics	2
PHAR 622 Epidemiology and Pharmacy Practice	2
PHAR 623 Patient Medication Safety	2
PHAR 771 Student Pharmacist Professionalism	continues

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**P3 fall semester**

EPID 593 MPH Practicum*	1-2
PHAR 533 Introductory Pharmacy Practice Experience: Service-learning	0.5
PHAR 550 Scholarship III	continues
PHAR 604 Clinical Therapeutics Module X: Infectious Diseases	4.5
PHAR 605 Clinical Therapeutics Module XI: Hematology/Oncology	2.5
PHAR 606 Clinical Therapeutics Module XII: Nephrology/Urology	2.5
PHAR 607 Clinical Therapeutics Module XIV: Dermatology, EENT	1.5
PHAR 640 Foundations V	1
PHAR 660 Pharmacy Practice Management I: Community Practice	4
PHAR 771 Student Pharmacist Professionalism	continues

\*A total of two credits of the practical experience must be completed.

17.5-18.5

**P3 spring semester**

EPID 593 MPH Practicum*	1-2
PHAR 550 Scholarship III	2
PHAR 618 Clinical Therapeutics Module XIII: Gastrointestinal/Nutrition	2.5
PHAR 619 Clinical Therapeutics Module XV: Women's Health/Bone and Joint	2.5
PHAR 620 Clinical Therapeutics Module XVI: Critical Care/Toxicology	1.5
PHAR 645 Foundations VI	1
PHAR 661 Pharmacy Practice Management II: Institutional Practice	2
PHAR 721 Clinical Therapeutics Module XVII: Special Populations	1
PHAR 724 Pharmacy Law	2.5
PHAR 771 Student Pharmacist Professionalism	continues
Pharmacy electives	2-3

\*A total of two credits of the practical experience must be completed.

18-20

**P4 fall semester**

BIOS 547 Applied Data Analysis in Public Health I	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 571 Principles of Epidemiology	3
HCPR 601 Introduction to Health Policy	3
SBHD 605 Introduction to Social and Behavioral Health	3
Public health elective	3

16.5

**P4 spring semester**

BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 604 Principles of Environmental Health	3
Public health electives	6

14.5

**P5 year**

EPID 694 MPH Research Project (capstone)	3
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PHAR 760 Acute Care Pharmacy Practice I	5
PHAR 761 Advanced Hospital Pharmacy Practice	5
PHAR 762 Geriatrics Pharmacy Practice	5
PHAR 763 Ambulatory Care Pharmacy Practice	5
PHAR 765 Elective I**	5
PHAR 766 Elective II**	5
PHAR 768 Advanced Community Pharmacy Practice	5
PHAR 771 Student Pharmacist Professionalism	1
PHAR 773 Acute Care Pharmacy Practice II	5

\*\*At least one of these electives must be in an approved public health setting.

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## Combined Doctor of Pharmacy (Pharm.D.) and Master of Science (M.S.) in Pharmaceutical Sciences

The School of Pharmacy offers a Pharm.D./Master of Science in Pharmaceutical Sciences as a combined graduate/professional degree program that teaches individuals to analyze and solve problems of interest to pharmacists. Students develop a broad range of skills by taking classes and working closely with faculty. Since the degree is offered concurrently with the professional pharmacy degree, certain efficiencies can be realized that permit students to graduate sooner than might be expected; although, this degree may require up to two years of study beyond the Pharm.D. program depending on the student's educational background and chosen area of study. Students will take the required Pharm.D. curriculum, with selected substitutions of required courses with graduate-level courses, in addition to the graduate curriculum.

In their first two years (P-1 and P-2), the Pharm.D./M.S. students will complete the required Pharm.D. curriculum while attending research seminars, and possibly pursue graduate courses as electives. After admission into the graduate program, the students will take required graduate courses in lieu of Pharm.D. courses during their P-3 (G-1) year followed by graduate research during the summer. During their G-2 through G-4 years, the students will complete the graduate course requirements and their required Pharm.D. clerkships and work on their graduate research project. Stipends and tuition may be provided for students serving as graduate teaching or research assistants. During that period, the student will follow procedures prescribed to Ph.D. students in Pharmaceutical Sciences.

Students can focus on the following research areas within the School of Pharmacy: pharmacotherapy, pharmacokinetics, biopharmaceutical analysis, pharmaceuticals/physical pharmacy, pharmacy administration and medicinal chemistry. Also, students may focus on the following research areas within the School of Medicine: pharmacology and toxicology. The choice of research area determines the required graduate course work.

The combined Pharm.D./M.S. program in the School of Pharmacy is a full-time program of professional education while offering an opportunity for advanced study in pharmaceutical sciences. The program recognizes the need for pharmacy practitioners with excellent research skills in clinical, academic, industrial and regulatory environments. The programs are designed to take advantage of efficiencies in both the Pharm.D. and the M.S. program, and allows students in the combined program to complete the program requirements of both programs after five or six years with both degrees being awarded at the same graduation ceremony.

Students may be admitted into the programs before or during their first two years of enrollment in the Pharm.D. program. Applicants must demonstrate a good academic record, experience in research (e.g., during summer research fellowships with the school's graduate faculty) and successful completion of the Graduate Record Examination (GRE). Additionally their application must be sponsored by a graduate faculty member.

## Department of Medicinal Chemistry

The Department of Medicinal Chemistry applies the latest strategies and concepts from several broad scientific disciplines including synthetic chemistry, molecular modeling, computational biology, structural genomics, and pharmacology.

## Administration

**Richard A. Glennon**  
Professor and Department Chair



## Department of Pharmaceutics

The Department of Pharmaceutics offers graduate study leading to the degrees of Master of Science and Doctor of Philosophy in Pharmaceutical Sciences. In addition, students may elect to pursue a joint Pharm.D./Ph.D. program. These programs provide the preparation and research experience for academic, federal and industrial careers.

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### Administration

**Peter R. Byron**

Professor and Department Chair

## Department of Pharmacotherapy and Outcomes Science

The Department of Pharmacotherapy and Outcomes Science is the largest of the three departments at the VCU School of Pharmacy. The focus of the department is pharmacotherapy (the safe and effective use of drugs in humans), and pharmacy administration (evaluation of the social and economic impact of drug therapy in humans and in health care systems).

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### Administration

**Donald F. Brophy**

Professor and Chair



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## **2013-14 Graduate and Professional Programs Bulletin**

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**School of Social Work**

The oldest of its kind in the South, Virginia Commonwealth University's School of Social Work was established in 1917 as the Richmond School of Social Economy. Later renamed the School of Social Work and Public Health, it became the first unit of Richmond Professional Institute. The school was created initially in response to community needs in working with World War I veterans and their social and health problems. Subsequent development of the school has expanded activity into all areas of human service.

With the creation of VCU in 1968, the School of Social Work became a unit of what is now the university's Monroe Park Campus. The school offers baccalaureate-, master's- and doctoral-level programs in Richmond, and the capital provides educational opportunities in many state government agencies. Through 2012 VCU's School of Social Work also offers an off-campus M.S.W. program in Northern Virginia. Located in Alexandria, its proximity to Washington, D.C. allows additional field opportunities with federal agencies and national organizations.

Social work education at VCU is highly individualized and is characterized by a close relationship between faculty and students. Faculty members help students learn the form and method of social work practice, and students are encouraged to discover their own unique style of helping others. The school's educational programs are designed to prepare students for practice in many different kinds of social agencies. A combination of classroom courses and concurrent fieldwork experiences facilitates integration of knowledge, attitudes and skills necessary for professional practice. The integrated class and fieldwork curriculum offers students the opportunity to acquire a substantial base in social work practice, patterns of human behavior and development, organization and operation of social welfare programs and policies, the methods of scientific inquiry in social work, and the needs of special populations.

#### The profession of social work

The goals of the profession of social work are to provide services to persons who are vulnerable due to a lack of personal, social and/or institutional resources to meet their emotional, health and economic needs. Social work practice is the application of professional knowledge, skills and values across a range of settings and populations. The focus of practice is on individuals, couples, families, groups and communities. In addition to direct clinical social work practice, social workers are involved in the administration of human service programs, social planning, the development of social policies, research and evaluation, and teaching.

In order to achieve the goals of promoting social justice and enhancing well-being for individuals, families, groups and communities, social workers provide a variety of services primarily in public and nonprofit organizational contexts. Examples of the range of settings in which social workers practice include community centers, public social services, child welfare, residential treatment facilities, schools, community mental health agencies, family and children's service agencies, psychiatric and acute care hospitals, substance abuse treatment facilities, services for the elderly, court services and adult and juvenile rehabilitation facilities.

Professional education for social work practice dates to the early 1900s. The contributions of the profession are evidenced in health and mental health care, the well-being of children and families, the development and implementation of social policies, the planning, delivery and evaluation of human services, and a broad base of research on the human condition. The knowledge base of the profession and the integration of related social, behavioral and biological sciences acquired through professional education facilitates the contributions of social workers in multidisciplinary contexts.

Social work practice is designed to enrich quality of life by enabling individuals, groups, communities and organizations to achieve their greatest potential development. The goal of the School of Social Work at VCU is to provide professional education in response to these needs.

## Administration

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**Humberto Fabelo**  
Director, B.S.W. Program

## Accreditation

VCU's Bachelor of Social Work and Master of Social Work programs are accredited by the Commission on Accreditation of the Council on Social Work Education — the accrediting body for all schools of social work at both the baccalaureate and master's levels. Copies of the Accreditation Standards and Curriculum Policy Statement are available in the Office of the Dean.

## Financial assistance

Although financial assistance is limited, some funds are available from a variety of sources. No prospective student should refrain from seeking admission to the school for financial reasons alone. Besides the federal financial aid programs outlined in the undergraduate or graduate study areas of the bulletins, the university and the school also offer scholarships and/or teaching assistantships at all degree levels.

The H. H. Hibbs Loan Fund was established by the School of Social Work Alumni Association for short-term emergency needs. Enrolled students who wish to apply for a loan should discuss this with their faculty adviser and the associate dean.

For more information on these financial aid opportunities, visit the School of Social Work Web site at [www.vcu.edu/slwwweb/currentstudents/financial\\_support.html](http://www.vcu.edu/slwwweb/currentstudents/financial_support.html).

## Continuing education

Continuing education is a vital part of professional development. The School of Social Work offers institutes and workshops as part of the school's commitment to enhance social work practice and broaden educational experiences for students, social workers, field instructors and others in social service delivery systems.

State, regional and local agencies and institutions frequently identify educational and training needs in content or skill areas for selected staff members. The school, through contractual arrangements, contributes expertise in designing and implementing short-term training courses and materials.

Offerings are planned throughout the year. For further information about specific continuing education courses, visit the School of Social Work Web site at [www.vcu.edu/slwwweb/alumni/continuing.html](http://www.vcu.edu/slwwweb/alumni/continuing.html) or address inquiries to the Director of Continuing Education, School of Social Work, Virginia Commonwealth University, 1001 W. Franklin St., Richmond, VA 23284-2027.

## M.S.W. Program

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(703) 823-4131

The M.S.W. Program administers the [Master of Social Work](#) curriculum, including the off-campus program in Northern Virginia.

## Social Work, Master of (M.S.W.)

### Admission requirements summary

Social Work, Master of (M.S.W.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.W.	<b>Regular Standing</b> Full-time – Fall Part-time – Fall	Feb 1 Feb 1	
	<b>Advanced Standing</b> Summer only – Richmond campus	Dec 1	
Applications that are complete and received by Oct 15 will be reviewed by Dec 1.			
<b>Special requirements:</b> If applying for off-campus, indicate location in item 5 on application			
See Social Work Web site for <a href="#">application checklist form</a> .			

The school offers a graduate professional curriculum accredited by the Commission on Accreditation of the Council on Social Work Education leading to the Master of Social Work degree. The M.S.W. is offered on the Monroe Park Campus in Richmond and, through 2012, at an off-campus site in Northern Virginia.

The purpose of the M.S.W. program at VCU is to educate persons for advanced practice in either clinical social work or social work administration, planning and policy practice. The guiding principle in educating students is the promotion of a more just society that includes a commitment to the value of diversity and social work practice in a multicultural society. The VCU School of Social Work emphasizes critical thinking, self-awareness, data-based decision making and ethical integrity.

Graduates of this program will be able to address personal and social problems; formulate, implement and evaluate policies and programs; engage in knowledge development for the profession; and influence community decision making. The educational program focuses on service to and empowerment of people who experience oppression or vulnerability due to inadequate or inequitable distribution of personal, social or institutional resources.

Within this context, social work practice is defined as the application of professional knowledge, skills and values across a range of settings and populations for the prevention and amelioration of personal and social problems. The interactions among persons and their environments are the primary targets of social work practice. Services provided by social workers include the restoration, rehabilitation, maintenance and enhancement of optimal functioning of individuals, families, groups, communities and organizations.

Knowledge for social work practice is based on analysis and critical application of qualitative and quantitative research from within the profession and related social, behavioral and biological sciences. Skill in professional practice is based on the differential application of theories and research findings about people in their sociocultural and organizational contexts. Skill is developed by the social worker through the educational process, self-critical practice and the use of supervision and consultation. Values in social work practice are articulated in the profession's code of ethics and reflect the core values of service, social justice, dignity and worth of each individual, importance of human relationships, integrity, and competence.

### Student learning outcomes

Students will learn:

- A foundation of knowledge, skills, ethics and values essential for work with individuals, families, groups, communities and organizations.
- A concentration that prepares students for advanced practice in clinical social work or social work administration, planning and policy practice in a range of settings.
- To apply the profession's values and ethical principles.

- The implications of diversity through education on identifying cultural strengths and ways to counteract individual and institutional prejudice, oppression and discrimination.
- To use research methods to analyze and critically evaluate professional practice, programs and service delivery systems.
- Advocacy and involvement in advocacy to affect social and economic justice.

## Admission

Full-time or structured part-time program applicants are admitted to begin study in the fall semester only. Advanced standing program applicants are admitted for the summer session only. At the time of application, applicants may apply for only one of the following: full time on-campus Richmond, part time on-campus Richmond, or advanced standing. Advanced standing applicants planning to complete the clinical concentration year course work in Northern Virginia can apply for this program only for summer 2011. Thereafter, advanced standing course work can only be completed at the Richmond campus with the option to complete the internship in the Greater D.C. area. Application deadlines are Feb. 1 for full-time or part-time programs and Dec. 1 for the Advanced Standing Program. Application forms and instructions for applying to all graduate programs are available on the Graduate School Web site at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

### General admission requirements

Within the policies established by the University Graduate Council, the School of Social Work has established the following minimum criteria for admission to the 60-credit full-time or part-time program:

- A bachelor's degree from an accredited college or university.
- A cumulative GPA of 2.7 on a 4.0 scale for all undergraduate course work and a 3.0 (B) for the last 60 credits.
- A broad liberal arts background. Applicants must have completed a minimum of 30 semester credits in the liberal arts. Applicants must have completed at least one course (unless otherwise specified) in each of the following four areas:
  - **Mathematics/computer sciences:** math, logic, statistics, computer sciences.
  - **Humanities:** English composition, literature, art history, music appreciation, philosophy, languages, religious studies, multicultural studies.
  - **Social and behavioral sciences:** psychology, sociology, anthropology, history, political science, economics (with at least three credits in psychology and three credits in sociology).
  - **Biology and physical sciences:** anatomy/physiology, botany, general biology, zoology, chemistry, ecology, physics, geology, astronomy (with a minimum of three credits in human biology content).

Applicants who have not completed all the liberal arts prerequisites may be considered for admission but must have completed the prerequisite courses prior to enrollment and must provide official transcripts to document their completion. Courses may be completed at a community college or four-year institution. In addition to the academic requirements, the applicant must demonstrate commitment to social welfare and social justice. This should be reflected in (1) the personal statement and (2) the applicant's academic background, social work employment, internships and volunteer work in community agencies serving vulnerable and/or oppressed populations.

### General admission procedures

Applications will be reviewed when they are complete. This includes the application form, three letters of reference (such as from faculty, employers, colleagues who know the applicant's academic and work/volunteer abilities), official transcripts from all undergraduate and graduate colleges and universities attended, a personal statement and an employment and volunteer experience resume. The applicant is responsible for ensuring that all materials are submitted prior to the application deadline. Applicants are encouraged to submit their materials well before the deadline.

Some early decisions will be made on very strong applications; the majority of decisions will be made after the application deadline when the entire applicant pool can be considered. The admission review process includes faculty, practitioner, and administrative review of the applications. Reviewers consider

scholarship ability, academic background, writing skills, work and volunteer experience, and personal qualities that indicate potential to meet the requirements of the social work profession. The school is particularly committed to ensuring a student population that reflects the multicultural and diverse nature of American society.

#### Admission to the Advanced Standing Program

The Advanced Standing Program leads to a Master of Social Work degree upon completion of 42 credit hours. The program begins in early June, continues through the summer, and culminates with graduation the following May. The Advanced Standing Program is a full-time program only and cannot be pursued on a part-time basis.

Admission to the Advanced Standing Program is available to a select group of students with a bachelor's degree from an undergraduate social work program (B.S.W.), accredited by the Commission on Accreditation of the Council on Social Work Education, completed no more than five years prior to the date of application to the M.S.W. Program.

The minimum requirement for admission to the Advanced Standing Program is a 3.2 GPA on a 4.0 scale for the last 60 semester hours of academic work and a 3.0 cumulative GPA. Exceptions may be made to the GPA requirements for applicants with exceptional circumstances.

As part of the application packet, applicants must submit their field practicum evaluation(s) and a reference letter from the field practicum faculty. Applicants who meet these criteria will be scheduled for a structured on-campus interview, which includes a written case assessment.

Admission decisions will be based on application materials and faculty/administrative evaluation of applicant performance on the structured interview and written case assessment.

#### Transfer admits

Applicants transferring from other CSWE-accredited M.S.W. programs must submit course syllabi, field practicum evaluations and a Statement of Good Standing from the dean or director of the program from which the student is transferring. These materials must be submitted in addition to the required application form, transcripts, personal statement, resume and reference letters. No more than 30 semester credits will be accepted in transfer, and transfer credit will be awarded in accordance with university policies governing transfer credit and time limits for degree completion.

Applicants from non-social work graduate programs must submit course syllabi for transfer evaluation. A maximum of six semester credits of elective course work may be accepted in transfer from non-social work graduate programs in accordance with university policies governing transfer credit and time limits for degree completion. No course credit is given for life or work experience.

#### Course waiver information for new M.S.W. students

Students may request to be waived from courses in the M.S.W. program if they can demonstrate they have satisfactorily completed the equivalent courses. Students must present evidence of content equivalency to the M.S.W. program director and have earned an A or B grade in the courses that are the basis for the waiver request; these courses must have been completed within the last five years. A portfolio process is used to assess equivalency. Graduate students from non-M.S.W. programs, from B.S.W. programs but not in the Advanced Standing Program, and from B.A., B.S. or other undergraduate programs may be waived from no more than three foundation courses:

SLWK 609 Foundations of Research in Social Work Practice  
SLWK 601 and 610 Human Behavior in the Social Environment I and II

The course waiver does not result in award of credit. Credit may be awarded only through transfer of graduate courses (see Transfer Policy). Students who are granted waivers but not transfer credits must take elective courses to fulfill the number of credits that have been waived.

Students interested in pursuing a waiver for one or more of the specified foundation courses should contact the M.S.W. Program Office to request the Equivalency Portfolio Form(s) and instructions. Additional information concerning course waivers is available online: [www.vcu.edu/slwweb/admissions/msw.html](http://www.vcu.edu/slwweb/admissions/msw.html).

#### Special admits

Special admission may be granted to applicants whose GPA does not meet the minimum requirements, but who have strong practice-related experience and other exceptional qualifications. Although the GRE is not required, applicants may submit GRE scores or transcripts reflecting graduate course work completed to provide information on their capability for graduate study. Applicants admitted as provisional students (with GPAs below 2.7) must complete the first 12 credits in the program with a GPA of 3.0 or better and meet with their adviser at least three times during their first semester in the program.

#### Degree requirements

The regular standing M.S.W. degree requires the completion of 60 credits of graduate study (two years of full-time study). The first 30 credits (foundation curriculum) may be taken in one academic year on a full-time basis or may be extended to a maximum of two years in the structured part-time program. Students select an area of concentration for the last 30 credits, which can be completed in one academic year on a full-time basis or extended to a maximum of two years in the structured part-time program. Students are usually in a field instruction practicum two days each week during the foundation curriculum and three days each week during the concentration curriculum. Students must complete all required course work for the M.S.W. degree; however, modifications to the structure of the curriculum can be made for students with special learning needs.

All students at the Northern Virginia off-campus site must complete the M.S.W. course work by 2012.

Course credit for work or life experience is not granted in lieu of M.S.W. course credits.

#### M.S.W. curriculum

The purpose of the Master of Social Work Program is to prepare graduate-level social workers with mastery of the knowledge, values and skills essential for advanced social work practice in a multicultural society. The school accomplishes this purpose through its full- and part-time programs of study for the M.S.W. degree in its on- and off-campus locations. The objectives of the M.S.W. Program are to:

- Provide a foundation curriculum of the knowledge, skills, ethics and values essential for work with individuals, families, groups, communities and organizations.
- Provide a concentration curriculum preparing students for advanced practice in either clinical social work practice or social work administration, planning and policy practice in a range of settings.
- Promote students' adherence to and application of the profession's values and ethical principles.
- Promote students' understanding of the implications of diversity by educating them to identify cultural strengths and counteract individual and institutional prejudice, oppression and discrimination.
- Enable students to use research methods to analyze and critically evaluate professional practice, programs and service delivery systems.
- Promote students' understanding of advocacy and involvement in advocacy to effect social and economic justice.
- Provide a learning environment that instills in students a commitment to continued learning and self-critical practice.

#### The foundation

The foundation curriculum comprises the first 30 credits of the M.S.W. program. The purpose of the foundation practice, in laying the groundwork for concentration study, is to develop the knowledge and skill base necessary to apply and carry out core competencies (relationship building, problem identification, assessment, selecting and planning interventions, implementation, and evaluation) with individuals, families, groups, communities and organizations. Foundation practice emphasizes critical thinking, client strengths, commitment to social work values and ethical principles, self-awareness, professional development, evidence-based decision making, multicultural competency, and social and economic justice. The foundation curriculum includes courses in social work practice, human behavior, social policy, social justice, research and field instruction.



### Concentration options

After completion of the foundation year of study, M.S.W. students choose an advanced concentration in either clinical social work practice or social work administration, planning and policy practice. The concentration curriculum prepares graduates for active roles in practice and program evaluation and in the generation of knowledge for future practice, programs and policy.

Both concentration options are available in Richmond and the clinical concentration is available at the Northern Virginia off-campus site. Northern Virginia students can complete the SWAPP concentration by attending classes one to two days a week in Richmond with a field agency placement in the greater D.C. area.

In fall 2010 the Northern Virginia off-campus program will admit a final cohort of full-time study (only) clinical M.S.W. students. Admission for the final cohort to the Advanced Standing Program for students who plan to complete the clinical concentration at the Northern Virginia off-campus site will be granted in summer 2011. Field internships can be requested in off-campus sites for any student admitted to the M.S.W. program.

### Clinical social work practice concentration

Clinical social work practice involves a mutual problem-solving process in which multidimensional assessment, goal setting, planned intervention and evaluation are prominent components, all of which are informed by current scientific knowledge. All clinical practice is grounded in the values and purposes of the social work profession. The goal of clinical social work is to promote effective coping with life challenges and transitions. This is achieved by helping people solve problems, change dysfunctional behavior, resolve emotional and interpersonal conflicts, develop and use social networks and resources, and maintain achieved capacities and strengths. This goal rests on the fundamental belief in the dignity of all human beings and in communal responsibility for all members of the multicultural society.

Clinical social work practice takes place in the context of a purposeful relationship. The conscious use of the professional self is central in building and maintaining such relationships. Interventions may involve therapeutic, supportive, educational and resource management activities. These interventions are based on a process of strengthening and reordering of organizational structures in the lives of clients: intrapersonal (including intrapsychic), interpersonal, institutional and/or social.

### SWAPP concentration

The Social Work Administration, Planning and Policy Practice concentration prepares graduates to become leaders skilled in analyzing, formulating, implementing and evaluating policies, plans and programs. The knowledge, values and skills that are taught emphasize current theory and research through classroom and field-based experiences. Practice takes place in the context of a complex, changing environment in which communities and governmental, legislative, nonprofit and for-profit organizations advocate for, plan, and deliver social services and advocate for social change. The major themes within the integrated curriculum are social and economic justice, diversity, leadership, and advocacy.

### Field instruction

Field instruction courses are an integral part of the curriculum of the School of Social Work. Academic credit is awarded for field instruction hours completed in a community agency under professional supervision. In the first field placement, students are expected to demonstrate in practice the professional knowledge, values and skills studied in the total foundation curriculum.

In the concentration component of the curriculum, students are placed in agencies according to their chosen concentration (clinical social work practice or social work planning and administrative practice) and their career interests. Examples of such agencies are: public social services, community mental health centers, hospitals, substance abuse treatment programs, schools, family and children's services, and correctional facilities.

Part-time students planning to take either foundation or concentration field instruction (two semester or block option) must request placement in writing one full semester prior to the semester or summer in which they plan to begin field instruction. Such requests are to be addressed to the director of field instruction. Only one placement (foundation or concentration) may be taken in a block and the block placement option is only for students in the structured part-time program. Exceptions are sometimes granted for students with special learning needs.

Field instruction placements are available throughout Virginia, Washington, D.C. and in some neighboring states. Students residing in a community outside of Richmond may request field placement in their home community. Granting of the request depends on availability of appropriate resources. Students are, however, placed in agencies for field instruction primarily on the basis of curriculum requirements. Therefore, a number of students usually are placed in agencies a distance from Richmond (or their residence). Access to a car is essential and arrangements for travel must be made by students at their own expense.

Students may propose to complete one of their two field placements in their social work agency of employment. The proposal form may be obtained from the Field Department Office and the plan must meet the school's educational requirements. This option is not available to Advanced Standing Program students who complete only one field placement during their three semesters in the program.

Credit for work or life experience is not granted in lieu of field instruction course credits.

### Structured part-time study for the Master of Social Work degree

The school offers a structured part-time program leading to the M.S.W. degree on the Richmond campus. Students applying for the structured part-time program must: meet the same criteria for admission as full-time students; be admitted to the university prior to enrolling in any courses in the structured part-time program; and begin the program in the fall semester only. Students in the structured part-time program also must complete six credits each fall and spring semester and are expected to complete all requirements for the degree within a four-year period, making full-time work very difficult. **The structured part-time program cannot be completed entirely in night or weekend study, given field practicum requirements and the scheduling of some courses.** With the exception of the field practicum, foundation courses required in the structured part-time program are available in the evening (4 and 7 p.m. classes). Students may take the concentration curriculum (last 30 credits) on a full-time or a structured part-time basis on campus in Richmond. Advanced standing students admitted in summer 2011 can complete their concentration on a full-time basis at the Northern Virginia off-campus site or in Richmond.

### Curriculum exceptions

Students must complete all required course work for the M.S.W. degree; however, modifications to the structure of the curriculum may be requested by students with special learning needs. VCU has an Office of Services for Students with Disabilities. They work with students to determine academic adjustments that may be needed. They can be reached by calling (804) 828-2253 (VTDD). Students with disabilities also may call the director of student services in the School of Social Work, (804) 828-0703, to discuss their particular learning needs. The director of student services in the School of Social Work works with these students to determine potential curriculum options.

### Academic status

A minimum GPA of 3.0 (B) on a 4.0 scale over the entire period of study, a minimum of 60 credits in the two-year and part-time options, or 42 credits in the Advanced Standing Program, demonstrated ability in social work practice and acceptable professional behavior are required for graduation with a Master of Social Work degree.

Students must achieve a GPA of 3.0 or higher in the required foundation courses, exclusive of field instruction practicum, in order to continue into concentration study.

A student whose cumulative GPA is less than 3.0 at any point in the program after completion of the first 12 credits will be dropped from the program.

A student who receives any grade of D or F will be dropped automatically from the program without regard to GPA.

A student who earns a grade of C or below in more than six credits, exclusive of field instruction, will be dropped automatically and immediately from the program without regard to GPA.

Field practicum performance is graded on a pass/fail basis. The student must receive a grade of pass to continue in the program. The student who receives a grade of fail in the field practicum is dropped automatically and immediately from the program without regard to GPA.

A student who is dropped from the Master of Social Work program may petition the dean of the School of Social Work in writing for readmission to the program

after a minimum absence of two semesters; readmission is not guaranteed. A student may be readmitted only once.

### M.S.W course requirements

All students complete the same course requirements for the foundation curriculum prior to entering concentration courses. Concentration study varies according to the student's choice of method.

### Two-year program

Foundation	
	credits
<b>First year, fall semester</b>	
SLWK 601 Human Behavior in the Social Environment I	3
SLWK 602 Policy, Community and Organizational Practice I	3
SLWK 603 Social Work and Social Justice	3
SLWK 604 Social Work Practice with Individuals, Families and Groups I	3
SLWK 693 Foundation Field Instruction I	3
	15
<b>First year, spring semester</b>	
SLWK 605 Social Work Practice with Individuals, Families and Groups II	3
SLWK 606 Policy, Community and Organizational Practice II	3
SLWK 609 Foundations of Research in Social Work Practice	3
SLWK 610 Human Behavior in the Social Environment II	3
SLWK 694 Foundation Field Instruction II	3
	15
<b>Clinical concentration</b>	
<b>Second year, fall semester</b>	
SLWK 703 Mental, Emotional and Behavioral Disorders	3
SLWK 704 Clinical Social Work Practice I	3
SLWK 706 Research for Clinical Social Work Practice I	3
SLWK 793 Concentration Field Instruction	3
Elective	3
	15
<b>Second year, spring semester</b>	
SLWK 705 Clinical Social Work Practice II	3
SLWK 707 Research for Clinical Social Work Practice II	3
SLWK 710 Concentration Social Policy	3
SLWK 794 Concentration Field Instruction	3
Elective	3
	15
<b>Administration, planning and policy practice concentration</b>	
<b>Second year, fall semester</b>	
SLWK 711 Strategies for Social Work Planning and Administrative Practice	3

SLWK 712 Social Work Planning and Administrative Practice I	3
SLWK 714 Research for Social Work Administration, Planning and Policy Practice I	3
SLWK 793 Concentration Field Instruction	3
Elective	3
	15

### Second year, spring semester

SLWK 710 Concentration Social Policy	3
SLWK 713 Social Work Planning and Administrative Practice II	3
SLWK 715 Research for Social Work Administration, Planning and Policy Practice II	3
SLWK 794 Concentration Field Instruction	3
Elective	3
	15

For information on the required sequencing of part-time courses, see the [Structured Part-time Program](#) on the school's Web site. The part-time program is available only in Richmond for applicants admitted for fall 2010 and later.

### M.S.W./certificate and dual degree options

Study in the M.S.W. program combined with study in other programs or subjects can lead to students earning special certificates or additional degrees. The M.S.W. with certificate option is offered in combination with aging studies, interdisciplinary early childhood intervention and nonprofit management, as well as school social work certification. Dual degree study combines the M.S.W. with law, public health or divinity. The certificate in aging studies and certification for school social work practice options are offered at both the Richmond and Northern Virginia campuses. Other options are available only in Richmond.

### Combined Master of Social Work (M.S.W.) and Certificate in Aging Studies (Post-baccalaureate graduate certificate)

See the individual program pages for admission requirements specific to the separate degrees.

The School of Social Work in cooperation with the Department of Gerontology of the School of Allied Health Professions of VCU provides students with a unique educational opportunity in social work and gerontology. Master of Social Work students interested in work with elders or in gerontological programs may earn a Certificate in Aging Studies while completing the master's degree requirements.

Students must meet the admission requirements of the Master of Social Work program of the School of Social Work and of the Certificate in Aging Studies program in the Department of Gerontology, School of Allied Health Professions. Admission into one program does not guarantee admission into the other. In order to meet the requirements of the M.S.W. degree and the Certificate in Aging Studies, students complete a total of 65 graduate credits. All foundation and concentration courses of the Master of Social Work Program are completed, and core courses (nine credits) of the Certificate in Aging Studies Program are completed. Other requirements are met by (1) completion of M.S.W. research courses in which students undertake a project focused on aging, (2) completion of second-year field instruction practicum requirements (six credits) in a social work setting related to aging, (3) completion of an independent study course in gerontology, which integrates research and practicum courses.

Additional information may be obtained from either of the following offices:

**Department of Gerontology**  
**School of Allied Health Professions**  
[www.sahp.vcu.edu](http://www.sahp.vcu.edu)  
 Virginia Commonwealth University  
 P.O. Box 980228  
 Richmond, VA 23298-0228  
 Attention: M.S.W.-Gerontology Certificate Adviser

**School of Social Work**[www.vcu.edu/slwwweb](http://www.vcu.edu/slwwweb)

Virginia Commonwealth University

1001 W. Franklin St.

Richmond, VA 23284-2027

Attention: M.S.W.-Gerontology Certificate Adviser

	credits
GRTY 601 Biological and Physiological Aging	3
GRTY 602 Psychology of Aging	3
GRTY 605 Social Gerontology	3
GRTY 692 Independent Study in Gerontology	2
SLWK 706 and 707 Research for Clinical Social Work Practice I and II or	6
SLWK 714 and 715 Research for Social Work Administration, Planning and Policy I and II	
SLWK 793-794 Concentration Field Instruction or	6
SLWK 795 Concentration Block Field Instruction	
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**Combined Master of Social Work (M.S.W.) and Certificate in Nonprofit Management (Post-baccalaureate graduate certificate)**


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See the individual program pages for admission requirements specific to the separate degrees.

Students seeking a Master of Social Work may pursue a Certificate in Nonprofit Management through Virginia Commonwealth University's L. Douglas Wilder School of Government and Public Affairs.

Through a cooperative arrangement with the L. Douglas Wilder School of Government and Public Affairs, M.S.W. students pursuing the Social Work Administration, Planning and Policy Practice (SWAPPP) concentration may simultaneously earn the graduate certificate in nonprofit management offered by the L. Douglas Wilder School of Government and Public Affairs.

**Certificate requirements for M.S.W. students**

Social work SWAPPP concentration students are required to complete three nonprofit courses: PADM 656 Fund Development for the Nonprofit Sector (fall course); PADM 659 Financial Management for Nonprofit Organizations (spring course); and PADM 661 Nonprofit Law, Governance and Ethics (summer course) in the L. Douglas Wilder School of Government and Public Affairs.

Two social work SWAPPP courses are substituted for six credit hours of the certificate's 15 credit hour requirement. One of these courses is SLWK 712 Social Work Planning and Administrative Practice I. The second course can be SLWK 711 Strategies for Social Work Planning and Administrative Practice or SLWK 713 Social Work Planning and Administrative Practice II.

M.S.W. clinical concentration students must complete 15 course credits in nonprofit management. Six of the PADM nonprofit credits will satisfy the M.S.W. elective requirement for either concentration.

**Application process**

To earn the Certificate in Nonprofit Management simultaneously with the M.S.W., it is necessary to complete a graduate school application for the certificate program; however, no supporting documents are required for students who are already enrolled in good standing in the social work master's degree program.

Additional information may be obtained from the School of Social Work Web site at: [www.vcu.edu/slwwweb](http://www.vcu.edu/slwwweb) or by writing:

**School of Social Work**

Virginia Commonwealth University

1001 West Franklin Street

Richmond, Virginia 23284-2027

Attention: Certificate in Nonprofit Management Adviser

Detailed information about the Certificate in Nonprofit Management can be obtained from Nancy Stutts, assistant professor and interim chair of the Master of Public Administration program, (804) 828-2164 or email: [nbstutts@vcu.edu](mailto:nbstutts@vcu.edu).

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**Combined Master of Social Work (M.S.W.) and certification for school social work practice**


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See the individual program pages for admission requirements specific to the separate degrees.

Through a collaborative program with the VCU School of Education, students may meet Virginia Department of Education standards for certification as school social workers in Virginia in addition to meeting requirements for the M.S.W. degree. Students interested in certification in school social work should contact their adviser during the first semester of their program. In order to meet the requirements of the M.S.W. degree and the School Social Work certification option, students complete a total of 63 graduate credits including six credit hours of approved graduate courses in education.

Additional information may be obtained from the School of Social Work Web site at [www.vcu.edu/slwwweb](http://www.vcu.edu/slwwweb) or by writing:

**School of Social Work**

Virginia Commonwealth University

1001 W. Franklin St.

Richmond, VA 23284-2027

Attention: Certificate for School Social Work Adviser

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**Combined Master of Social Work (M.S.W.) and Juris Doctor (J.D.)**


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Through a cooperative arrangement with the T. C. Williams Law School, selected students in either school may pursue a combined four-year curriculum of graduate study leading to the degrees of Master of Social Work and Juris Doctor. The program is established in recognition of the role of public law in social and economic life. The dual degree program prepares professionals versed in the values, knowledge and skills of both fields, bringing an integrated base of competency to the resolution of human and social problems.

Applicants must successfully meet the admission requirements of both schools and upon admission are assigned an adviser in each school. Students in dual degree study may begin the course work in either school, with the sequence of courses being determined by the point of entry.

The time normally required for completion of the integrated four-year curriculum is one academic year less than if each degree were taken separately. Elective courses will enable students to select areas in law and in social work which meet their particular interests. Application for admission must be made to each institution separately. Those interested should write both the Admissions Office of the T. C. Williams Law School, University of Richmond, VA 23173 and the Graduate School, Virginia Commonwealth University, Richmond, VA 23298-0568.

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**Combined Master of Social Work (M.S.W.) and Master of Divinity (M.Div.)**


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This four-year professional degree program is offered by Virginia Commonwealth University in cooperation with Richmond Theological Consortium schools that include Union-Presbyterian School of Christian Education, Baptist Theological Seminary at Richmond, and Samuel DeWitt Proctor School of Theology at Virginia Union University. The purpose of the dual degree program is to prepare students for service in occupations where social work and the church's ministries intersect; to enable social workers to perform and evaluate social work practices as they relate to biblical, theological, ethical, educational and pastoral perspectives; and equip graduates for various forms of ministry in which clinical and administrative skills in social work are critical.

This program requires four continuous years of study and leads to a Master of Social Work degree conferred by VCU and a Master of Divinity degree conferred by Union-PSCE, BTRSR or STVU. Permission for part-time study must be given by the dual degree adviser at VCU and the appropriate theological school dean of faculty. All degree requirements must be completed within seven years of matriculation. Students can apply simultaneously to both programs and begin study at either institution following the approved curriculum plan; or, a student

may begin at either VCU or the seminary and then apply for admission to the other school during the first year of study in accordance with application deadline dates.

The M.S.W. requires 60 credits that include the required integrating seminar and one course transferred from the seminary to satisfy a three-credit M.S.W. elective requirement. The integrative seminar is taken in the final year of study and is co-taught by a member of the VCU School of Social Work faculty and a member of a faculty of an RTC school. The seminar enables the student to integrate theoretical, social justice, empirical, ethical and practical dimensions of social work with the biblical, theological, educational and pastoral perspectives.

Prospective students apply to the VCU School of Social Work and one of the participating theological schools, must meet both sets of admission standards, and be accepted into both programs. For the M.S.W. program, refer to the "[Admission to the master's degree program](#)" section. For information about admission to an RTC master of divinity program, contact one of the following schools:

Baptist Theological Seminary at Richmond  
3400 Brook Road  
Richmond, VA 23286-3446  
Telephone: (804) 345-BTSR (2877)

Samuel DeWitt Proctor School of Theology  
1500 N. Lombardy St.  
Richmond, VA 23220  
Telephone: (804) 257-5715

Union Theological Seminary and Presbyterian School of Christian Education  
3401 Brook Road  
Richmond, VA 23227  
Telephone: (804) 278-4230  
Toll free: (800) 229-2990

For information about the M.S.W./M.Div. program or advising questions related to the sequences of study, contact Joseph Walsh at (804) 828-8208 or email [jwalsh@vcu.edu](mailto:jwalsh@vcu.edu).

### Combined Master of Social Work (M.S.W.) and Master of Public Health (M.P.H.)

See the individual program pages for admission requirements specific to the separate degrees.

Through a collaborative program between the VCU School of Social Work and the Division of Epidemiology in the Department of Family Medicine and Population Health in the School of Medicine, students complete a three-year full-time program of study, including summer course work, to obtain the Master of Social Work and Master of Public Health degrees. The purpose of this dual-degree program is to prepare graduates to work with individuals, families, groups, communities and/or organizations; advocate for social, health care and economic justice in a diverse and multicultural society; and promote physical and mental health across the life course.

Prospective students are required to apply separately to both programs through the Graduate School and must meet both sets of admission requirements. (See [www.pubapps.vcu.edu/bulletins/prog\\_search/?did=20039&iid=31083](http://www.pubapps.vcu.edu/bulletins/prog_search/?did=20039&iid=31083) for M.P.H. program requirements; [www.pubapps.vcu.edu/Bulletins/prog\\_search/?did=20077&iid=30474](http://www.pubapps.vcu.edu/Bulletins/prog_search/?did=20077&iid=30474) for M.S.W. program requirements.) Once admitted to both programs, the student is assigned an adviser from each to develop a plan of study, typically starting with the M.S.W. course work. It is preferable that students apply to both programs at the same time so that the structured dual-degree curriculum can be optimally planned. Students in one program may also apply to the second program during the first year of study.

Students are required to complete a minimum of 45 M.S.W. credits and a minimum of 33 M.P.H. credits, for a total of 78 semester credit hours. In the M.P.H. program, this includes 24 credit hours of core and required courses, a minimum six credit hours of elective courses and a minimum of three credit hours of a capstone project that examines a relevant public health topic. During the third and last year of study, the dual-degree students are placed in internships through the School of Social Work that focus on public health; the internship placement is approved by both the M.P.H. program director and the director of social work field instruction. With adviser approval, the student may develop a capstone project based on work in this public health/social work placement.

For additional information, see [www.epidemiology.vcu.edu/education/mph/dual.html](http://www.epidemiology.vcu.edu/education/mph/dual.html).

#### Curriculum

	Credits
<b>Year 1, fall</b>	
SLWK 601 Human Behavior in the Social Environment I	3
SLWK 602 Policy, Community and Organizational Practice I	3
SLWK 603 Social Work and Social Justice	3
SLWK 604 Social Work Practice with Individuals, Families and Groups I	3
SLWK 693 Foundation Field Instruction I	3
<b>Year 1, spring</b>	
SLWK 605 Social Work Practice with Individuals, Families and Groups II	3
SLWK 606 Policy, Community and Organizational Practice II	3
SLWK 609 Foundations of Research in Social Work Practice	3
SLWK 610 Human Behavior in the Social Environment II	3
SLWK 694 Foundation Field Instruction II	3
<b>Year 1, summer</b>	
SLWK 703 Mental, Emotional and Behavioral Disorders (or fall, year 2)	3
<b>Year 2, fall</b>	
BIOS 547 Applied Data Analysis in Public Health I	3
EPID 547 Applied Data Analysis Lab I	1.5
EPID 571 Principles of Epidemiology	3
EPID 593 MPH Practicum	1
SBHD 605 Introduction to Social and Behavioral Health	3
SLWK 703 Mental, Emotional and Behavioral Disorders or	3
SLWK 711 Strategies for Social Work Planning and Administrative Practice	
<b>Year 2, spring</b>	
BIOS 548 Applied Data Analysis in Public Health II	3
EPID 548 Applied Data Analysis Lab II	1.5
EPID 580 Public Health Ethics	1
EPID 593 MPH Practicum	1
EPID 604 Principles of Environmental Health	3
SLWK 704 Clinical Social Work Practice I or	3
SLWK 712 Social Work Planning and Administration Practice I	
EPID elective	3
<b>Year 2, summer</b>	
EPID elective (or fall, year 3)	3
<b>Year 3, fall</b>	
EPID 694 MPH Research Project (degree requires a total of 3 credits)	1-3
HCPR 601 Introduction to Health Policy	3
SLWK 704 Clinical Social Work Practice I or	3
SLWK 712 Social Work Planning and Administrative Practice I	
SLWK 793 Concentration Field Instruction	3
EPID elective	3
<b>Year 3, spring</b>	
EPID 694 MPH Research Project (if needed to total 3 credits)	1-3
SLWK 705 Clinical Social Work Practice II or	3
SLWK 713 Social Work Planning and Administrative Practice I	
SLWK 794 Concentration Field Instruction	3

(Students choose either SLWK 703, 704 and 705 for the clinical concentration or SLWK 711, 712 and 713 for the administration, planning and policy practice concentration; SLWK 793-794 is required for both concentrations.)

### Ph.D. Program

**Kia J. Bentley**  
Director, Ph.D. Program

kbentley@vcu.edu  
(804) 828-0453

The Ph.D. Program administers the curriculum that leads to the [Doctor of Philosophy in Social Work](#).

## Social Work, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Social Work, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall (full time or part time)	Applications received by Feb 15 given priority for financial aid	GRE-General
Special requirements: In addition to GRE General test, applicants must submit a writing sample.			

VCU's Ph.D. in Social Work Program is a research-oriented educational enterprise with a mission to develop scholars and leaders for education and practice in human services. Its vision is a program that builds and nurtures students' intellectual curiosity, creativity and courage, as well as their desire to "make a difference." The program is built around excellence in teaching, mentorship and socialization of students, as well as collaborative involvement in the program by its diverse faculty. Graduates of the program become active in teaching, consultation, research, practice and program evaluation, staff and program development, policy analysis, and advocacy. They are employed in universities and colleges, and in human service organizations and agencies at the local, state, national and international levels. In all the program's activities and events, emphasis is placed on the following areas:

- The development of an intellectual community that values critical and creative thinking.
- The connections among the philosophy of science, theory, research and practice.
- The analysis and integration of knowledge and values, especially their relevance to diverse populations and issues of social justice.

### Student learning outcomes

- A critical understanding of multiple paradigms in the philosophy of science and the implications of these for contemporary research
- Mastery of a range of research methodologies and data analysis strategies, and competence in conducting independent inquiry on issues of importance to the field
- Competence in the analysis and application of a wide range of social, behavioral and practice theories
- An ability to design and propose theoretically and empirically grounded models of social work intervention for coping with personal transitions and challenges, addressing social problems, and promoting equity and social justice
- A critical understanding of the historical place of social work and social welfare in the evolution of social thought and cultural values
- Expertise in a chosen substantive area related to social work, including skills related to dissemination of this knowledge
- Familiarity and beginning expertise about the exchange and dissemination of professional knowledge via submissions and presentations to meetings, journals and other professional outlets

## Admission

Applicants to the program must have an earned master's degree in social work or a closely related discipline and professional or practice-related experience relevant to their career goals. The relationship between the applicant's professional experience and her/his career objectives should be clearly articulated in the personal statement submitted with the application materials.

Applicants whose career goals include teaching in a bachelor's- and/or master's-level social work program should be aware that an M.S.W. degree and practice experience, along with the Ph.D., are often considered to be minimal job requirements. In addition, Council on Social Work Education accreditation

standards currently require that individuals who want to teach practice courses in particular must have an M.S.W. and at least two years of post-M.S.W. practice experience.

The Graduate Record Examination taken within the past five years is required of all applicants. A combined score of 1,000 or higher on the verbal and quantitative sections is expected. Applicants with combined scores of less than that may wish to retake the GRE before submitting their scores. However, applicants should also be aware that GREs are only part of the application folder and are weighed along with other aspects of the applicant's credentials.

Applicants for full-time and part-time study are judged by the same criteria. While it is possible to combine a limited amount of course work with outside employment, all students must complete at least one year of full-time study prior to admission to candidacy.

For application materials, contact: Dr. Kia J. Bentley, Doctoral Program Director, School of Social Work, P.O. Box 842027, Virginia Commonwealth University, 1001 W. Franklin St., Richmond, VA 23284-2027; e-mail [kbentley@vcu.edu](mailto:kbentley@vcu.edu).

## Curriculum

A minimum of 39 credit hours of course work beyond the master's degree plus a minimum of 15 credit hours of dissertation research is required. The course work includes 27 credit hours of content common for all students, and 12 credit hours of concentration content in a substantive area. The Graduate School requirements for candidacy exams and dissertation committees apply to students in this program. Up to six credit hours may be granted for courses completed at another university. Full-time students ordinarily complete 18-20 credit hours per academic year. Other requirements are detailed below.

### Common curriculum

Curriculum that is required of all students consists of the following courses (27 credits):

SWKD 701 Quantitative Research Methods and Analysis I  
SWKD 702 Quantitative Research Methods and Analysis II  
SWKD 703 Philosophical Issues in Social Work Knowledge Building  
SWKD 704 Multiparadigmatic Qualitative Methods and Analysis  
SWKD 705 Multivariate Analysis in Social Work and Human Services Research  
SWKD 708 Social Science Foundations for Social Work  
SWKD 710 Social Work, Social Welfare and Social Thought  
SWKD 715 Development and Evaluation of Social Work Practice Theories and Models

Note: Many courses in the common curriculum are completed prior to moving on to more specialized concentration course work.

### Concentration curriculum

The concentration curriculum allows students to specialize in a substantive area and increase their relevant research skills. This concentration consists of at least 19 hours of course work, including advanced statistics and research courses, a directed research course designed to assist students in preparing for their dissertation research project and an integrative seminar. In addition to courses offered by the program, students are expected to enroll in appropriate courses in other schools and departments of the university with approval of their adviser.

### Comprehensive exam/admission to candidacy

Upon completion of all required course work, participants will take a comprehensive exam under the supervision of a Comprehensive Examination Committee. Through the comprehensive examination, students must demonstrate the ability to integrate the whole of their educational experience by adequately addressing complex questions pertinent to the current and



developing knowledge base of the human service field. Successful completion of the comprehensive exam results in candidacy status for the Ph.D. degree.

**Dissertation**

After admission to candidacy, students proceed to propose, complete and defend their dissertation. This is done under the supervision of a dissertation committee. Students are required to maintain continuous enrollment of at least three credit hours per semester (excluding summer) until they have attained 12 hours of dissertation credit, after which they may enroll for as few as one credit per semester. The dissertation must represent independent research and should be based on an original question or hypothesis relevant to social work. Successful defense of the dissertation completes the requirements for the degree.



**VCU**

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## **2013-14 Graduate and Professional Programs Bulletin**

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**VCU Life Sciences**

VCU entered a new era when it implemented, as one of its highest priorities, a new university-wide matrix academic organization called VCU Life Sciences, created in response to the need to prepare students for the anticipated growth in new life sciences jobs in the coming decades. The skills identified for these jobs require highly interdisciplinary or multidisciplinary approaches, often falling between the boundaries of traditional academic disciplines. The way that the life sciences are understood and taught is likely to be fundamentally different, with increasing emphasis on systems biosciences as an important complement to more traditional, purely reductive approaches. The objective of Phase II of VCU's strategic plan specifically outlines the need to bring VCU's major academic and administrative divisions together to work on mutual initiatives that will accomplish VCU's goal of national leadership. VCU Life Sciences is a response to that objective.

## Faculty

VCU Life Sciences faculty members are drawn from departments across the university. Lists of participating faculty and academic affiliations are available on the [VCU Life Sciences Web site](#) for each program.

## Facilities

VCU Life Sciences comprises the resources and interests not only of the Monroe Park Campus and the VCU Medical Center, but also the [Virginia BioTechnology Research Park](#) and the [Inger and Walter Rice Center for Environmental Life Sciences](#), a property of 342 acres overlooking the James River in Charles City County. The \$27 million Eugene P. and Lois E. Trani Center for Life Sciences houses administrative offices, the Center for Environmental Studies, state-of-the-art laboratories and classrooms, and a climate-controlled greenhouse. The Center for the Study of Biological Complexity, including the Center for High Performance Computing at VCU, is housed in Grace E. Harris Hall.

VCU Life Sciences supports two university centers for its research and teaching efforts: the [Center for Environmental Studies](#) and the [Center for the Study of Biological Complexity](#).

## Administration

1000 West Cary Street  
P.O. Box 842030  
Richmond, Virginia 23284-2030  
(804) 827-5600  
Fax: (804) 828-1961  
[www.vcu.edu/lifesci](http://www.vcu.edu/lifesci)

**Thomas F. Huff**  
Vice Provost for Life Sciences

**Gregory A. Buck**  
Director of the B.S., B.S.-Master's and Master's Programs in Bioinformatics and Director of the Center for the Study of Biological Complexity

**Herschell S. Emery**  
Director of Undergraduate Curricula

**Gregory C. Garman**  
Director of the B.S., B.S.-Master's and Master's Programs in Environmental Studies and Director of the Center for Environmental Studies

**Robert M. Tombes**  
Director of the Ph.D. Program in Integrative Life Sciences

## VCU Life Sciences courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Undergraduate and graduate Bioinformatics [BNFO course descriptions](#).

Undergraduate and graduate Environmental Studies [ENVS course descriptions](#).

Undergraduate and graduate Environmental Studies Laboratories [ENVZ course descriptions](#).

Undergraduate and graduate Life Sciences [LFSC course descriptions](#).

## Graduate information

## Transfer credit

Graduate-level course work completed prior to matriculation into the program, including course work taken in another program at VCU or at another institution, shall be evaluated to determine whether it can be used to fulfill degree requirements of this program. There is no limit to the number of credits that can be transferred from another program at VCU as long as they have not been previously applied toward another degree. A maximum of six credit hours earned at an institution other than VCU can be accepted for transfer into the program if not previously applied toward another degree. A minimum grade of B is required for transfer of credits.

## Grade requirements

Degree candidates must maintain a GPA of 3.0 or greater. GPAs shall be based on all graduate courses attempted after acceptance into the program. The academic standing of any student who receives multiple grades of C, or a grade of D or F will be reviewed for possible termination from the program.

## Integrative Life Sciences, Doctor of Philosophy (Ph.D.)

### Admission requirements summary

Integrative Life Sciences, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall (preferred) Spring Summer	Feb 1	GRE
Special requirements: See program <a href="#">website</a>			

The Ph.D. in Integrative Life Sciences is designed for students who want to conduct research that is integrative across multiple disciplines and that takes a systems approach to emerging research questions across the many fields that comprise the life sciences. Students may opt to work with faculty members from departments on both campuses. The program provides the opportunity to conduct interdisciplinary research at multiple scales of study from the molecular to ecosystem levels with an emphasis on the concepts of systems biology and biological complexity.

### Student learning outcomes

1. The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
2. The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
3. The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify, and/or create and implement experimental protocols and to design and develop experiments as measured by rubric.
4. The candidate will demonstrate an appropriate level of skill in the identification and selection of meaningful problems to be addressed in bioscience research, including the ability to defend said identifications and to design and develop appropriate methods to solve said problems as measured by rubric.
5. The candidate will demonstrate an appropriate level of knowledge of the life sciences and a more detailed understanding of the disciplines most pertinent to their own interdisciplinary research area, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by rubric.

## Admission requirements, procedures and financial aid

The purpose of the admission requirements for the Ph.D. program is to ensure selection of outstanding students whose motivation, ability and education prepare them for interdisciplinary graduate study in the life sciences. The following requirements and procedures incorporate those of the [VCU Graduate School](#).

## 1. Admission requirements

- Graduation from an accredited college or university or its equivalent, with a degree in a discipline, a spectrum of course work, and/or professional experience that provides an appropriate background for graduate-level study in the life sciences.
- An undergraduate or graduate record indicating superior performance. Applicants must have a minimum GPA of 3.0 on a 4.0 scale for at least the last 60 credits of undergraduate work or for a completed graduate degree. In very unusual cases, this requirement may be waived by approval of the dean of the Graduate School.
- Satisfactory scores on the Graduate Record Examination. Scores for appropriate advanced tests, in particular biology, chemistry or molecular biology/biochemistry, are recommended.
- For applicants whose native language is not English, satisfactory scores from a standardized test commonly used and deemed appropriate for evaluation of English language proficiency, such as the TOEFL.
- Letters of recommendation from three present or former instructors or other individuals qualified to evaluate the applicant's ability to engage in graduate study in the life sciences.
- A written statement describing the applicant's interests, motivation, education and goals for pursuing graduate study in the life sciences.

## 2. Admission procedure

- The above material must be sent along with a completed application form and the required application fee to the Graduate School, Virginia Commonwealth University, Richmond, VA 23284-3051. Application forms and further information can be found on the Graduate School's Web page at [www.graduate.vcu.edu](http://www.graduate.vcu.edu).
- Applicants may apply for admission to begin studies any semester of the year, but fall admission is recommended. Admission to graduate study in integrative life sciences requires majority approval and recommendation by the Graduate Program Committee and acceptance by the vice provost for Life Sciences and the dean of the Graduate School.

## 3. Types of admission

- Degree-seeking student: An applicant who meets all requirements for admission to the program.
- Provisional student: An applicant who has not fully met the requirements of the program but shows exceptional promise. Applicants with outstanding potential but who lack courses or training in specific areas deemed necessary for success in the program may be required to complete specific course work. Provisionally accepted students must remove all conditions of the provisional admission within one year of enrollment. Failure to meet these conditions will result in the student being dismissed from the program. No prerequisite courses taken as a provisional student may be applied toward the graduate degree.

- Financial aid. In addition to need-based financial aid awarded through the Office of Financial Aid, students may be eligible to be considered for a variety of scholarships, fellowships, and teaching and research assistantships. Information regarding available financial support will accompany an offer of acceptance.

## Degree requirements

Students are required to complete course work in core and elective courses and to conduct significant research. All work toward the degree must be completed within seven years of the first enrollment.

- Credit requirements.** Students in the program are required to earn a minimum of 64 hours of graduate-level credits. At least one-half of the credit hours presented for graduation must be at the 600 level or higher.
- Grade requirement.** Degree applicants must achieve an overall GPA of 3.0 ("B") with a grade of "C" in no more than two courses. The GPA for graduation is based on all graduate courses attempted after acceptance into the program.
- Transfer and M.S. credits.** Graduate-level course work taken in another program at VCU or at another institution, shall be evaluated to determine whether it can be used to fulfill degree requirements of this program. There is no limit to the number of credits that can be transferred from another program

at VCU as long as they have not been previously applied toward another degree. A maximum of six credits earned at another institution can be accepted for transfer into the program if not previously applied toward another degree. A minimum grade of "B" is required for credits transferred.

- Research adviser and committee.** New students entering the program may be initially advised by an advisory committee of faculty members to assist students with initial course selection and to provide advice concerning the program. Students should select a research adviser prior to their third semester of study. The research adviser may be chosen from among the many graduate faculty members associated with this program from either campus.

Students are required to form a research advisory committee that is headed by the research adviser and consists of a minimum of five members of the VCU graduate faculty. Individuals who are not graduate faculty members (i.e. individuals from another institution or industry) must apply to the dean of the Graduate School for temporary membership. The significant areas of the student's research focus should be represented by the members of the research advisory committee. At least two members of the committee shall be from departments other than that of the research adviser, with one of those members being integrally associated with the student's research to foster the interdisciplinary intent of this degree program. Students should form their committee no later than the end of their third semester of study.

- Written and oral examinations.** Before admission to candidacy for the Ph.D. degree, students must successfully complete a comprehensive written examination and an oral examination. The student's research advisory committee will administer both exams. Students should take the written exam upon completion of all required didactic course work. It will focus on material covered in core and selected elective courses as well as fundamental knowledge relevant to the student's research field. Upon successful completion of the written examination and submission and acceptance of a research proposal, students should take an oral examination that includes a defense of the proposed research project and other subject areas deemed appropriate by the committee. Students may retake the written and oral examinations only once.
- Dissertation research.** The dissertation research project should represent a significant contribution to the body of knowledge in its field and should be deemed suitable for publication in refereed journals. The emphasis of the research conducted by students in this program should be on interdisciplinary research, incorporating two or more disciplines and with a systems approach. Research projects may take advantage of the many research opportunities across the life sciences on both campuses. Projects may encompass multiple scales of study from molecular to ecosystem levels. Students shall prepare a written dissertation describing the completed research using the format approved by the Graduate School. An oral defense of the dissertation, under the direction of the research advisory committee and open to all faculty members, also is required. Upon successful completion of all degree requirements, students will graduate with the Ph.D. in Integrative Life Sciences.

## Curriculum requirements

A minimum total of 64 credits is required and is distributed as follows:

- 12 credits in core courses  
LFSC 510/BIOL 545 Biological Complexity  
LFSC 520/BIOL 548 Bioinformatic Technologies  
LFSC 630 Integrative Life Sciences Research  
LFSC 690 Research Seminar in Integrative Life Sciences  
OVPR 601 Scientific Integrity
- a minimum of three credits in an advanced statistics, advanced mathematics or experimental design course depending on the students area of research\*  
BIOL 606 Quantitative Ecology  
BIOS/STAT 523 Nonparametric Statistical Methods  
BIOS 524 Biostatistical Computing  
BIOS 572 Statistical Analysis of Biomedical Data  
BNFO/BIOL 601 Integrated Bioinformatics  
ENVS 603 Environmental Research Methods  
LFSC 610 Analytical Methods in Biocomplexity Analysis  
MATH 591 Topics in Mathematics: Mathematical Biology  
MATH 617 Applied Mathematics I  
STAT/BIOS 544 Statistical Methods II

STAT 623 Discrete Multivariate Analysis  
 STAT 643 Applied Linear Regression  
 Other courses based on approval of research advisory committee

- a minimum of nine credits in elective courses based on research interest and approved by research advisory committee
- a minimum of 40 credits in directed research (LFSC 697)

\* Students are expected to enter the program with a proficiency in statistics at the introductory level, as exemplified by STAT/BIOS 543 Statistical Methods.

Students not at this level, as evidenced by prior course work, will be required to take STAT/BIOS 543 or an equivalent course.

## Center for Environmental Studies

The undergraduate and graduate programs in environmental studies are interdisciplinary in nature, exposing students to the critical links between the areas of environmental life sciences, technology and policy.

At the undergraduate level, students gain the necessary skills for entry-level field and research positions. Class lectures and guest speakers introduce the importance of policy-making and awareness in the environmental field, while laboratory and internship experiences provide a working knowledge of the latest in environmental technology and field practices.

The graduate programs provide two options for students to further their studies in the environmental life sciences. The Master of Science in Environmental Studies is a thesis-based program designed for those individuals interested pursuing research in the environmental field. The Master of Environmental Studies (the non-thesis program) is a terminal, two-year professional degree for individuals working in the private/public sector of the environmental field.

## Administration

**Gregory C. Garman**

Director of the B.S., B.S.-Master's Programs in Environmental Studies and  
 Director of the Center for Environmental Studies

[www.vcu.edu/cesweb](http://www.vcu.edu/cesweb)

## Environmental studies courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow these links to environmental studies (ENVS) courses or the (ENVZ) laboratories.

Follow this link to life sciences (LFSC) courses.

## Environmental Studies, Master of (M.Envs.)

### Admission requirements summary

Environmental Studies, Master of (M.Envs.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Envs. (non-thesis degree option)	Fall Spring Summer	Jul 1 Dec 1 May 1	GRE
Special requirements: See program <a href="#">Web site</a>			

The Center for Environmental Studies offers a Master of Environmental Studies (non-thesis option) that replaces the thesis with a directed research experience and a comprehensive exam.

## Student learning outcomes

1. Graduates will possess a sophisticated and practical understanding of methods for collection, analysis, presentation, and critical interpretation of environmental data using appropriate statistical and quantitative tools.
2. Graduates will be able to use emerging environmental technologies and apply them under real-world conditions.

3. Graduates will be able to conduct objective research and/or interpret research findings, and apply scientific concepts and information to the decision-making process for environmental regulations and policies.
4. Graduates will be able to effectively bridge the realms of policy and science on critical environmental issues; able to make significant contributions in an interdisciplinary professional and academic environment.

## Admission requirements

Applicants should have successfully completed undergraduate training and hold a bachelor's degree. Admissions to the program are generally drawn from applicants with an undergraduate GPA above 3.0 (on a 4.0 scale or equivalent) and satisfactory scores on a current standardized graduate admissions test (i.e., GRE, minimum 1500, minimum 500 each for verbal, quantitative and analytical). Applicants holding an undergraduate degree from recognized foreign institutions should display an acceptable level of English proficiency by achieving a score of 600 or above on the TOEFL examination. Application forms and other university materials can be obtained from the Graduate School, Virginia Commonwealth University, P.O. Box 843051, Richmond, VA 23284-3051, or at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

## Degree requirements

In addition to general VCU graduation requirements, students must:

- Complete a minimum of 33 graduate semester credits, approved by the program director, with an overall GPA of 3.0 or above (At least 15 semester credits must be at the 600 level.)
- Complete three required core courses (9 credits) and complete an additional 21 credits of approved graduate electives

### Core requirements (3 courses/9 credits)

ENVS 601 Environmental Studies Survey  
 ENVS 603 Environmental Research Methods  
 STAT 543 Statistical Methods I (or equivalent)

**Electives** (3 courses or 21 credits; courses must represent at least two of the disciplines below)

### Environmental studies

ENVS 550 Ecological Risk Assessment  
 ENVS/ANTH 556 Historical and Cultural Landscapes  
 ENVS 590 Environmental Studies Seminar  
 ENVS 692 Independent Study  
 ENVS 693 Internship in Environmental Studies

### Environmental policy and administration

ENVS/PADM 628 Environmental Policy and Administration  
 ENVS 660 Virginia Environmental Law and Regulation  
 ENVS 691 Business and the Environment  
 PADM 601 Principles of Public Administration  
 PADM/ENVS 691 River Policy and Management  
 URSP 650 Natural Resources and Environmental Planning  
 URSP 652 Environmental Analysis

### Environmental science/health

BIOL 501 Community Ecology  
 BIOL 510 Conservation Biology  
 BIOL 514 Stream Ecology  
 BIOL/ENVS 532 Water Pollution Biology  
 BIOL 591 Applied and Environmental Microbiology  
 ENVS 650 Pesticides, Health and the Environment  
 ENVS 655 Environmental Hydrology  
 ENVS 670 Pollution Physiology  
 ENVS 691 Topics in Environmental Studies: Environmental Chemistry  
 ENVS 691 Topics in Environmental Studies: Environmental Toxicology  
 PMCH/ENVS 610 Environmental and Occupational Epidemiology

### Environmental technology

URSP/ENVS 521 Introduction to GIS  
 ENVS 602 Environmental Technology  
 ENVS/URSP 654 Environmental Remote Sensing  
 URSP/ENVS 691 Environmental Applications of GIS  
 ENVS 691 EcoInformatics



Other electives may be allowed with prior permission of major adviser and program director. Students may not apply more than three credits (total) of ENVS 692 and/or ENVS 693 to the degree without prior approval of the major adviser and program director.

Students pursuing the M.Envs. Must complete, in addition to all other degree requirements, the following requirements in lieu of the six-credit thesis requirement: three credits of ENVS 692 Independent Study or ENVS 693 Internship and three credits of approved electives, for a total of 33 graduate semester credits. In addition, the student must pass an oral comprehensive examination.

### Accelerated Bachelor of Science (B.S.) and Master of Environmental Studies (M. Envs.)

The accelerated B.S. and M.Envs. Program allows qualified students with a major in environmental studies to earn both degrees in five years by completing approved graduate courses during the senior years of their undergraduate program. The program will provide students with the opportunity to expand and deepen their knowledge of environmental studies while enhancing their professional credentials for the job market. Students in the program may count up to 12 hours of graduate courses toward both the B.S. and M.Envs. degrees. Thus, the student may earn the two degrees with a minimum of 141 hours. Currently, the M.Envs. Program requires students to earn 33 graduate credits.

The accelerated program is restricted to students who have demonstrated strong interest and success in environmental studies. The minimum qualification for admittance to the program is the completion of 90 undergraduate credit hours with an overall GPA of 3.0 and a GPA of 3.3 in the environmental studies major concentration. Students also are required to provide a letter of recommendation from at least one of their major professors attesting to their interest and competence in environmental studies.

Students failing to meet the minimum standards for admission to the accelerated program due to exceptional circumstances will be allowed to appeal to the environmental studies graduate admissions committee for special admission. However, under no circumstances will students who fail to meet the graduate student standards of performance outlined in the Graduate Bulletin be admitted to the accelerated program.

The environmental studies undergraduate and graduate studies program directors jointly will provide guidance for students who are accepted into the accelerated program. This guidance will include a review of all of the program degree requirements, both graduate and undergraduate, and the development of an appropriate plan of study.

The requirements for the B.S. in Environmental Studies and the Master of Environmental Studies are not reduced by the accelerated program. However, 12 hours of graduate course work may be applied toward both degrees for qualified students in the program. The table below outlines the undergraduate requirements that would be fulfilled by the corresponding graduate courses. Where special circumstances exist (e.g., student has already completed a fulfilled course prior to applying to the accelerated program), another undergraduate requirement may be fulfilled by the listed graduate course with the approval of both the graduate and undergraduate program directors.

#### Accelerated B.S.-M.Envs. allowable graduate courses and undergraduate credits

Shared graduate class	Undergraduate requirement fulfilled	Credits
STAT 543 Statistical Methods I	STAT 314 Applications of Statistics	3
ENVS 550 Ecological Risk Assessment or ENVS 670 Pollution Physiology	ENVS 330 Environmental	3
ENVS 601 Survey in Environmental Studies	SOCY/POLI 320 Research Methods in Social Sciences	3
ENVS elective	ENVS elective	3

#### Approved graduate electives

ENVS/URSP 521 Introduction to Geographic Information Systems  
 ENVS 591 Topics in Environmental Studies  
 ENVS 602 Environmental Technology  
 ENVS/PADM 628 Environmental Policy and Administration

Following the completion of the undergraduate requirements, the student may complete the master's degree within one year. The recommended approach would be to complete the hands-on component of the degree (internship or independent study) during the summer following completion of the undergraduate requirements. All additional requirements could then be completed in two nine-hour semesters. However, students may also opt to postpone the hands-on component of the degree until the summer following the completion of all graduate course work.

### Environmental Studies, Master of Science (M.S.)

The Center for Environmental Studies offers a Master of Science in Environmental Studies (thesis option).

#### Student learning outcomes

1. Graduates will be able to use emerging environmental technologies and apply them under real-world conditions.
2. Graduates will be able to conduct objective research and/or interpret research findings, and apply scientific concepts and information to the decision-making process for environmental regulations and policies.
3. Graduates will be able to effectively bridge the realms of policy and science on critical environmental issues and be able to make significant contributions in an interdisciplinary professional and academic environment.
4. Graduates will possess a sophisticated and practical understanding of methods for collection, analysis, presentation and critical interpretation of environmental data using appropriate statistical and quantitative tools.

#### Admission requirements

Applicants should have successfully completed undergraduate training and hold a bachelor's degree. Admissions to the program are generally drawn from applicants with an undergraduate GPA above 3.0 (on a 4.0 scale or equivalent) and satisfactory scores on a current standardized graduate admissions test (i.e., GRE, minimum 1500, minimum 500 each for verbal, quantitative and analytical). Applicants holding an undergraduate degree from recognized foreign institutions should display an acceptable level of English proficiency by achieving a score of 600 or above on the TOEFL examination. Application forms and other university materials can be obtained from the Graduate School, Virginia Commonwealth University, P.O. Box 843051, Richmond, VA 23284-3051, or at [www.graduate.vcu.edu/admission/prospective/domestic](http://www.graduate.vcu.edu/admission/prospective/domestic).

#### Degree requirements

In addition to general VCU graduation requirements, students must:

- Complete a minimum of 33 graduate semester credits, approved by the program director, with an overall GPA of 3.0 or above (At least 15 semester credits must be at the 600 level.)
- Complete three required core courses (9 credits), successfully defend a research thesis (6 credits) and complete an additional 18 credits of approved graduate electives

#### Core requirements (3 courses/9 credits)

ENVS 601 Environmental Studies Survey  
 ENVS 603 Environmental Research Methods  
 STAT 543 Statistical Methods I (or equivalent)

#### Thesis (maximum of 6 credits; research option only)

ENVS 697/698 Research and Thesis

**Electives** (6 courses or 18 credits; courses must represent at least two of the disciplines below)

#### Environmental studies

ENVS 550 Ecological Risk Assessment  
 ENVS/ANTH 556 Historical and Cultural Landscapes  
 ENVS 590 Environmental Studies Seminar  
 ENVS 692 Independent Study  
 ENVS 693 Internship in Environmental Studies

#### Environmental policy and administration

ENVS/PADM 628 Environmental Policy and Administration  
 ENVS 660 Virginia Environmental Law and Regulation

ENVS 691 Business and the Environment  
 PADM 601 Principles of Public Administration  
 PADM/ENVS 691 River Policy and Management  
 URSP 650 Environmental Planning  
 URSP 652 Environmental Analysis

#### Environmental science/health

BIOL 501 Community Ecology  
 BIOL 510 Conservation Biology  
 BIOL 514 Stream Ecology  
 BIOL/ENVS 532 Water Pollution Biology  
 BIOL 591 Applied and Environmental Microbiology  
 ENVS 650 Pesticides, Health and the Environment  
 ENVS 655 Environmental Hydrology  
 ENVS 670 Pollution Physiology  
 ENVS 691 Topics in Environmental Studies: Environmental Chemistry  
 ENVS 691 Topics in Environmental Studies: Environmental Toxicology  
 PMCH/ENVS 610 Environmental and Occupational Epidemiology

#### Environmental technology

URSP/ENVS 521 Introduction to GIS  
 ENVS 602 Environmental Technology  
 ENVS/URSP 654 Environmental Remote Sensing  
 URSP/ENVS 691 Environmental Applications of GIS  
 ENVS 691 EcoInformatics

Other electives may be allowed with prior permission of major adviser and program director. Students may not apply more than three credits (total) of ENVS 692 and/or ENVS 693 to the degree without prior approval of the major adviser and program director.

## Center for the Study of Biological Complexity

The Center for the Study of Biological Complexity is a new multidisciplinary focus of research and scholarly activity within VCU Life Sciences. The mission of the center is to apply the principles of complexity to contemporary biological problems in all aspects of research and scholarly activity, supporting research in integrative molecular, cellular and developmental biology.

## Administration

### Gregory A. Buck

Director of the B.S., B.S.-Master's and Master's in Bioinformatics and Director of the Center for the Study of Biological Complexity

[www.vcu.edu/csbc](http://www.vcu.edu/csbc)

## Bioinformatics courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to bioinformatics (BNFO) courses.

Follow this link to life sciences (LFSC) courses.

## Bioinformatics, Master of (M.Bin.)

### Admission requirements summary

Bioinformatics, Master of (M.Bin.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.Bin.	Fall Spring Summer	Jul 1 Nov 1 May 1	GRE
Special requirements: International students requiring temporary U.S. visas should apply by April 1 for fall admission, Oct. 1 for spring admission or Feb. 1 for summer admission.			

The Master of Bioinformatics (M.Bin) represents a new type of master's degree, the professional science master's, which is increasingly popular with students and industry employers. The M.Bin. is designed primarily for the entrepreneurial student seeking an accelerated master's program that blends comprehensive course

work, significant but reduced research experience and a professional externship. The centerpiece of the M.Bin. option is the opportunity to extern for a full summer at an academic, government or industry location. While this degree prepares students for a variety of careers in the life sciences, it should be particularly attractive to students interested in entry-level positions in industry.

### Student learning outcomes

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- Experimental design competency: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify and/or create and implement bioinformatics experimental protocols and to design and develop experiments as measured by rubric.
- Problem solving skills: The candidate will demonstrate an appropriate level of ability to analyze scientific problems including pertinent datasets and design and develop appropriate methods to solve said problems as measured by rubric.
- Integrated knowledge of bioinformatics: The candidate will demonstrate an appropriate level of knowledge of fundamentals of molecular biology, computational science, statistics, and a more detailed understanding of their individual area of internship research, including an appropriate familiarity with the research literature, as measured by rubric.

## Admission requirements

The purpose of the admission requirements for the graduate program in bioinformatics is to identify and select outstanding candidates whose motivation, background, potential and character have prepared them for the rigors of study required in the program. The Bioinformatics Admissions Committee will screen applications. The following requirements and procedures incorporate and fully comply with those of the VCU Graduate School.

- An undergraduate or previous graduate record indicating superior capabilities. Applicants must have a minimum GPA of 3.0 on a 4.0 scale for the last 60 credits of undergraduate work or for a completed graduate degree. This requirement may be waived by approval of the dean of the Graduate School.
- Satisfactory scores on the Graduate Record Examination (GRE). The verbal, quantitative and analytical writing sections of the GRE are required. Scores for appropriate advanced tests, in particular biology, chemistry or mathematics, are recommended.
- For an applicant whose native language is not English, satisfactory scores from a standardized test commonly used and deemed appropriate for evaluation of English language, such as the TOEFL.
- Letters of recommendation from at least three present or former instructors or other individuals qualified to evaluate the applicant's abilities to engage in graduate studies in bioinformatics.
- A written statement describing the applicant's interests, motivation, education and goals for pursuing graduate study in bioinformatics.
- Applicants must indicate which master's degree (M.S. or M.Bin.) they intend to seek.

## Prerequisites and bridge curricula for master's programs

While an ideal preparation for the bioinformatics master's programs would include substantial work in molecular biology, computer science, mathematics and statistics, the program has been designed to provide "bridge curricula" to accommodate academically strong students with majors in any one of these disciplines. These students would develop with the assistance of their adviser a "bridge curriculum" of largely undergraduate courses to meet the prerequisites for the program and prepare them for graduate-level work.

Program prerequisites are listed below. In general, students will not need to address the set corresponding to their undergraduate major, but will usually need to address the other two sets. It is expected that all bridge course work will be completed during the first year.

1. Biology/genomic prerequisites: An introductory knowledge of biochemistry and molecular biology, one semester of Organic Chemistry (e.g. CHEM 301), Cell Biology (e.g. BIOL 218), and Essentials of Molecular Biology in Bioinformatics (2 credit module: BNFO 507).
2. Computational science prerequisites: An introductory knowledge of discrete mathematics (e.g. MATH 211); an introductory knowledge of computer science including at least one general computer programming language, met by taking Structured Programming (e.g. CMSC 255) and Data Structures and Advanced Programming (e.g. CMSC 256).
3. Quantitative/statistical prerequisites: An introductory knowledge of math/statistics, met by taking Calculus with Analytic Geometry I (e.g. MATH 201) and Introduction to Statistical Computing (STAT 321) or Applied Statistics for Engineers and Scientists (STAT 541).

## Curriculum

Curriculum	Credits
<b>Core</b>	
BNFO 501 Introduction to Physical Implementation of Databases	1
BNFO/BIOL 540 Fundamentals of Molecular Genetics	3
BNFO 600 Basic Scripting Languages	2
BNFO/BIOL 601 Integrated Bioinformatics	3
BNFO 620 Bioinformatics Practicum	3
BNFO 621 Business and Entrepreneurship for Life Scientists	3
BNFO 690 Seminars in Bioinformatics	1
BNFO 700 Externship in Bioinformatics	2
CMSC 508 Database Theory	3
OVPR 601 Scientific Integrity	1
<b>Total core credits</b>	<b>22</b>
<b>Recommended electives</b> (see below)	<b>12</b>
<b>Program total</b>	<b>34</b>

### Recommended electives

BIOS 567 Statistical Methods for Microarray Data	3
BNFO/BIOL 541 Laboratory in Molecular Genetics	2
BNFO 591 Special Topics in Bioinformatics	variable
BNFO 592 Independent Study	variable
BNFO 620 Bioinformatics Practicum	3
BNFO 621 Business and Entrepreneurship for Life Scientists	3
BNFO 637 Networks Biology	3
BNFO/MICR 653 Advanced Molecular Genetics: Bioinformatics	3
BNFO 691 Special Topics in Bioinformatics	variable
BNFO 691 Special Topics in Bioinformatics (Genomics and Phylogenetics)	3
BNFO 692 Independent Study	variable
CLSE 562 Advanced Systems Biology Engineering	3
CMSC 501 Advanced Algorithms	3
MATH 580-581 Methods of Applied Mathematics for the Life Sciences I-II	3
PHYS 591 Topics in Physics (Modeling, Computing and Biocomplexity)	3

Students enrolled in the M.Bin. Program usually complete a 10- to 12-week full-time externship at an industrial, government or academic site, usually during the summer between their first and second years in the bioinformatics program. In preparation for this externship, students will enroll in BNFO 620 Bioinformatics Practicum, in the semester preceding their externship. Under the supervision of their major adviser and Graduate Advisory Committee, the external supervisor, and the coordinator of the Bioinformatics Practicum course, each student must develop and write a short proposal outlining the plans for the externship. The project must be approved by the student's GAC, based on a short (10-page) paper submitted by the student. This paper will include background on the project including a review of the literature, the purpose, specific aims and rationale of the

project, a statement about the specific hypothesis to be investigated, and proposed methods and statistical analyses.

Research projects will be based on ongoing research in the laboratories of the participating external adviser. Students in the program may perform research on the broad range of subjects, from molecules to ecosystems, encompassing the field of bioinformatics.

In the semester following the externship experience, M.Bin. students shall prepare a written paper describing the completed research performed during their externship following the format of the Graduate School for M.S. theses. An oral defense, consisting of a public presentation of the paper and a committee meeting to discuss the results, under the direction of the GAC but open to all faculty members and the adviser of the externship, shall be scheduled to examine the student's underlying fundamental knowledge of the disciplines encompassed by the student's research. Announcement of the oral defense, including the candidate's name, project title, and the day, place and time of the defense, shall be made at least 10 working days in advance of the defense.

## Advising

All new students entering the program will be able to discuss their options with the bioinformatics program coordinator and shall be assigned a track adviser, who is a faculty member of the CSBC, to assist with initial course selection and to provide advice concerning the program. All students in the M.Bin. Program will select a major adviser prior to beginning course work of the second semester in the program.

Subsequently, a Graduate Advisory Committee, headed by the major adviser, shall direct students enrolled in the program in their course work selections. The GAC shall consist of four members, all of whom must be members of the VCU graduate faculty. Individuals who are not already graduate faculty members, e.g. from another institution or industry, must apply to the dean of the Graduate School for temporary membership. The composition of the GAC shall be such that the significant areas for the student's focus are represented. At least one member of the committee shall be from departments other than that of the major adviser, to provide a diversity of perspective on the committee. Students and their major advisers should form their committees no later than the end of their second semester of study. Final approval of the GAC membership shall be by the Bioinformatics Program Committee and the director of the Bioinformatics Program.

## Bioinformatics, accelerated bachelor's to master's

The accelerated bachelor's to master's program in bioinformatics permits selected students majoring in bioinformatics to earn the Bachelor of Science and master's degrees in a minimum of five years by taking certain graduate level courses during the senior year of their undergraduate program. The program is restricted to students with strong credentials and a clear interest in a career in the field of bioinformatics.

## Admission requirements and procedures

### Regular admission

In order to be admitted formally into the program through the regular admissions process, a student must be a VCU bioinformatics major, must have completed 90 semester credit hours with an overall GPA of at least 3.0, including a substantial amount of collateral and core course work within the major and evidence of strong academic achievement. An application must be submitted to the Graduate School.

Applicants should indicate which master's degree program (Master of Science in Bioinformatics or Master of Bioinformatics) is of interest to them. Applications will be screened by the Bioinformatics Admissions Committee. Most students will be able to initiate the application process during the second semester of their junior year. Students provisionally accepted into the program will be notified in time to register for courses as accelerated students but will not be formally admitted into the program until they have completed all requirements listed above.

Following acceptance into the accelerated program, students must continue to meet the requirements stated above throughout the senior year, as well as the graduate student standards of performance specified in this Bulletin in order to be awarded formal acceptance into the graduate program, which typically takes place just prior to the fall semester of the fifth year.

### Guaranteed admission

The bioinformatics master's program participates in the Honors College Guaranteed Admission Program. This program allows highly qualified high school seniors who will be participating in the VCU Honors College to gain admission into selected VCU graduate programs without competing for that admission at a later date. In order to apply for guaranteed admission, the student must have obtained a combined score of 1910, in a single sitting, on the SATI, with neither score below 530, and have achieved a minimum 3.5 unweighted GPA (4.0 scale). Once accepted into the Guaranteed Admission Program, bioinformatics students must fulfill the requirements of the Honors College for graduation with University Honors, maintain a cumulative GPA of 3.5, progress satisfactorily in honors courses and meet course requirements of the bioinformatics graduate program in order to remain exempt from competing for admission into the master's program. Guaranteed admission applicants will be screened by the Bioinformatics Admissions Committee.

### Shared credits for accelerated program

1. *BNFO 620 (Bioinformatics Practicum) or BNFO 508 (Introduction to Bioinformatics Research) replaces BNFO 420 (Applications in Bioinformatics) for the M.Biof. and M.S., respectively	3
2. Course work taken to meet master's cross-track requirements replaces undergraduate program electives.	6
3. A graduate course within the track replaces a BS-track required (if approved by adviser) or elective course.	3
Total shared credits	12

\* For accelerated program students, BNFO 620 or BNFO 508 replaces BNFO 420 to meet the "oral communication" general education requirement.

## Bioinformatics, Master of Science (M.S.)

### Admission requirements summary

Bioinformatics, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jul 1	GRE
	Spring	Nov 1	
	Summer	May 1	
Special requirements: International students requiring temporary U.S. visas should apply by April 1 for fall admission, Oct. 1 for spring admission or Feb. 1 for summer admission.			

The Master of Science in Bioinformatics offers a traditional research-oriented master's degree culminating in submission and defense of a thesis. The goal of this program is to prepare students for research careers in university, foundation or industry laboratories, as well as for further research training in a Ph.D. program.

### Student learning outcomes

- Oral communication skills: The candidate will demonstrate the achievement of an appropriate level of oral communication skills with respect to the content, organization, logical flow, presentation and appropriate use of language incorporating the use of visual aids, as measured by rubric.
- Written communication skills: The candidate will demonstrate the achievement of an appropriate level of written communication skill with respect to grammar, syntax, spelling and use of vocabulary to effectively present information including the use of figures, tables and citations as measured by rubric.
- Experimental design competency: The candidate will demonstrate the achievement of an appropriate level of competence in the ability to appraise, modify and / or create and implement bioinformatics experimental protocols and to design and develop experiments as measured by rubric.
- Problem solving skills: The candidate will demonstrate an appropriate level of ability to analyze scientific problems including pertinent datasets and design and develop appropriate methods to solve said problems as measured by rubric.

- Integrated knowledge of bioinformatics: The candidate will demonstrate an appropriate level of knowledge of fundamentals of molecular biology, computational science, statistics and a more detailed understanding of their individual area of thesis research, including an appropriate familiarity with the research literature, as measured by rubric.

### Admission requirements

The purpose of the admission requirements for the graduate program in bioinformatics is to identify and select outstanding candidates whose motivation, background, potential and character have prepared them for the rigors of study required in the program. The Bioinformatics Admissions Committee will screen applications. The following requirements and procedures incorporate and fully comply with those of the VCU Graduate School.

- An undergraduate or previous graduate record indicating superior capabilities. Applicants must have a minimum GPA of 3.0 on a 4.0 scale for the last 60 credits of undergraduate work or for a completed graduate degree. This requirement may be waived by approval of the dean of the Graduate School.
- Satisfactory scores on the Graduate Record Examination (GRE). The verbal, quantitative and analytical writing sections of the GRE are required. Scores for appropriate advanced tests, in particular biology, chemistry or mathematics, are recommended.
- For an applicant whose native language is not English, satisfactory scores from a standardized test commonly used and deemed appropriate for evaluation of English language, such as the TOEFL.
- Letters of recommendation from at least three present or former instructors or other individuals qualified to evaluate the applicant's abilities to engage in graduate studies in bioinformatics.
- A written statement describing the applicant's interests, motivation, education and goals for pursuing graduate study in bioinformatics.
- Applicants must indicate which master's degree (M.S. or M.Bin.) they intend to seek.

### Prerequisites and bridge curricula for master's programs

While an ideal preparation for the bioinformatics master's programs would include substantial work in molecular biology, computer science, mathematics and statistics, the program has been designed to provide "bridge curricula" to accommodate academically strong students with majors in any one of these disciplines. These students would develop with the assistance of their adviser a "bridge curriculum" of largely undergraduate courses to meet the prerequisites for the program and prepare them for graduate-level work.

Program prerequisites are listed below. In general, students will not need to address the set corresponding to their undergraduate major, but will usually need to address the other two sets. It is expected that all bridge course work will be completed during the first year.

1. Biology/genomic prerequisites: An introductory knowledge of biochemistry and molecular biology, one semester of Organic Chemistry (e.g. CHEM 301), Cell Biology (e.g. BIOL 218), and Essentials of Molecular Biology in Bioinformatics (2 credit module: BNFO 507).
2. Computational science prerequisites: An introductory knowledge of discrete mathematics (e.g. MATH 211); an introductory knowledge of computer science including at least one general computer programming language, met by taking Structured Programming (e.g. CMSC 255) and Data Structures and Advanced Programming (e.g. CMSC 256).
3. Quantitative/statistical prerequisites: An introductory knowledge of math/statistics, met by taking Calculus with Analytic Geometry I (e.g. MATH 201) and Introduction to Statistical Computing (STAT 321) or Applied Statistics for Engineers and Scientists (STAT 521).

### Advising

All new students entering the program will be able to discuss their options with the bioinformatics program coordinator and shall be assigned a track adviser, who is a faculty member of the CSBC, to assist with initial course selection and to provide advice concerning the program. All students in the M.S. in Bioinformatics

program will select a major adviser prior to beginning course work of the second semester in the program.

Subsequently, a Graduate Advisory Committee, headed by the major adviser, shall direct students enrolled in the program in their research and course work selections. The GAC shall consist of four members, all of whom must be members of the VCU graduate faculty. Individuals who are not already graduate faculty members, e.g. from another institution or industry, must apply to the dean of the Graduate School for temporary membership. The composition of the GAC shall be such that the significant areas for the student's research focus are represented. At least one member of the committee shall be from departments other than that of the major adviser, to provide a diversity of perspective on the committee. Students and their major advisers should form their committees no later than the end of their second semester of study. Final approval of the GAC membership shall be by the Bioinformatics Program Committee and the director of the Bioinformatics Program.

## Curriculum

Curriculum (M.S.)	Credits
<b>Core</b>	
BNFO 501 Introduction to Physical Implementation of Databases	1
BNFO 508 Introduction to Bioinformatics Research	2
BNFO/BIOL 540 Fundamentals of Molecular Genetics	3
BNFO 600 Basic Scripting Languages	2
BNFO/BIOL 601 Integrated Bioinformatics	3
BNFO 690 Seminars in Bioinformatics	1
BNFO 697 Directed Research in Bioinformatics	6
	(minimum)
CMSC 508 Database Theory	3
OVRP 601 Scientific Integrity	1
<b>Total core credits</b>	<b>22</b>
<b>Recommended electives</b> (see below)	<b>12</b>
<b>Program total</b>	<b>34</b>
<b>Recommended electives</b>	
BIOS 567 Statistical Methods for Microarray Data	3
BNFO/BIOL 541 Laboratory in Molecular Genetics	2
BNFO 591 Special Topics in Bioinformatics	variable
BNFO 592 Independent Study	variable
BNFO 620 Bioinformatics Practicum	3
BNFO 621 Business and Entrepreneurship for Life Scientists	3
BNFO 637 Networks Biology	3
BNFO/MICR 653 Advanced Molecular Genetics: Bioinformatics	3
BNFO 691 Special Topics in Bioinformatics	variable
BNFO 691 Special Topics in Bioinformatics (Genomics and Phylogenetics )	3
BNFO 692 Independent Study	variable
CLSE 562 Advanced Systems Biology Engineering	3
CMSC 501 Advanced Algorithms	3
MATH 580-581 Methods of Applied Mathematics for the Life Sciences I- II	3
PHYS 591 Topics in Physics (Modeling, Computing and Biocomplexity)	3

### Thesis research

Students in the M.S. program must perform a credible original investigation under the supervision of their major adviser and Graduate Advisory Committee. Each student must develop and write a short proposal in consultation with his or her major adviser and GAC. The project must be approved by the student's GAC, based on a short (10-page) paper submitted by the student. This paper will include background on the project including a review of the literature, the purpose, specific aims and rationale of the project, a statement about the specific hypothesis to be investigated, and proposed methods and statistical analyses.

Research projects will be based on ongoing research in the laboratories of faculty in the CSBC and across both campuses of VCU and the Virginia BioTechnology Research Park. Students in the program may perform research on the broad range of subjects, from molecules to ecosystems, studied by CSBC faculty.

Students shall prepare a written thesis describing the completed research performed during their tenure in the M.S. in Bioinformatics program following the format of the Graduate School. An oral defense, consisting of a public presentation of the thesis and a committee meeting to discuss the thesis, under the direction of the GAC but open to all faculty members, shall be scheduled to

examine the student's research, thesis and underlying fundamental knowledge of the discipline's encompassed by the student's research. Announcement of the oral defense, including the candidate's name, thesis title, and the day, place and time of the defense, shall be made at least 10 working days in advance of the defense.

## Bioinformatics, accelerated bachelor's to master's

The accelerated bachelor's to master's program in bioinformatics permits selected students majoring in bioinformatics to earn the Bachelor of Science and master's degrees in a minimum of five years by taking certain graduate level courses during the senior year of their undergraduate program. The program is restricted to students with strong credentials and a clear interest in a career in the field of bioinformatics.

## Admission requirements and procedures

### Regular admission

In order to be admitted formally into the program through the regular admissions process, a student must be a VCU bioinformatics major, must have completed 90 semester credit hours with an overall GPA of at least 3.0, including a substantial amount of collateral and core course work within the major and evidence of strong academic achievement. An application must be submitted to the Graduate School.

Applicants should indicate which master's degree program (Master of Science in Bioinformatics or Master of Bioinformatics) is of interest to them. Applications will be screened by the Bioinformatics Admissions Committee. Most students will be able to initiate the application process during the second semester of their junior year. Students provisionally accepted into the program will be notified in time to register for courses as accelerated students but will not be formally admitted into the program until they have completed all requirements listed above.

Following acceptance into the accelerated program, students must continue to meet the requirements stated above throughout the senior year, as well as the graduate student standards of performance specified in this Bulletin in order to be awarded formal acceptance into the graduate program, which typically takes place just prior to the fall semester of the fifth year.

### Guaranteed admission

The bioinformatics master's program participates in the Honors College Guaranteed Admission Program. This program allows highly qualified high school seniors who will be participating in the VCU Honors College to gain admission into selected VCU graduate programs without competing for that admission at a later date. In order to apply for guaranteed admission, the student must have obtained a combined score of 1910, in a single sitting, on the SATI, with neither score below 530, and have achieved a minimum 3.5 unweighted GPA (4.0 scale). Once accepted into the Guaranteed Admission Program, bioinformatics students must fulfill the requirements of the Honors College for graduation with University Honors, maintain a cumulative GPA of 3.5, progress satisfactorily in honors courses and meet course requirements of the bioinformatics graduate program in order to remain exempt from competing for admission into the master's program. Guaranteed admission applicants will be screened by the Bioinformatics Admissions Committee.

## Shared credits for accelerated program

1. *BNFO 620 (Bioinformatics Practicum) or BNFO 508 (Introduction to Bioinformatics Research) replaces BNFO 420 (Applications in Bioinformatics) for the M.Biof. and M.S., respectively	3
2. Course work taken to meet master's cross-track requirements replaces undergraduate program electives.	6
3. A graduate course within the track replaces a BS-track required (if approved by adviser) or elective course.	3
<b>Total shared credits</b>	<b>12</b>

\* For accelerated program students, BNFO 620 or BNFO 508 replaces BNFO 420 to meet the "oral communication" general education requirement.





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## **2013-14 Graduate and Professional Programs Bulletin**

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**Division of Community Engagement**

817 South Cathedral Place  
P.O. Box 843062  
Richmond, Virginia 23284-3062  
Phone: (804) 828-8848  
Fax: (804) 828-2756  
[www.community.vcu.edu](http://www.community.vcu.edu)

**Catherine W. Howard, Ph.D.**

Vice Provost, Division of Community Engagement, and associate professor of psychology

The Division of Community Engagement provides Virginia Commonwealth University with a centralized administrative unit focused on community engagement and nontraditional programs. In keeping with VCU's mission, the office:

- Facilitates and coordinates innovative academic programs, on and off campus, to enhance the community's access to VCU.
- Supports the involvement of faculty and students on the Monroe Park Campus and MCV Campus in community partnerships.
- Creates opportunities for interdisciplinary, community-based collaborations that integrate research, teaching and service.

The Division of Community Engagement consists of the Office of Continuing Studies and Special Programs and VCU Community Solutions. The division resides within the Office of the Provost and Vice President for Academic Affairs and assumes administrative responsibility for academic programs including off-campus courses, off-campus graduate art courses and the Master of Interdisciplinary Studies in Interdisciplinary Art, service-learning courses and the Service-Learning Associates Program, Nonprofit Learning Point, and the Retired Faculty Council. Additionally, the division administers various university-community partnerships that address pressing social concerns in the community including the Carver-VCU Partnership, Lobs & Lessons, VCU AmeriCorps, America Reads and the Virginia Mentoring Partnership.

## Office of Continuing Studies and Special Programs

The university provides numerous opportunities for adult education, off-campus instruction and professional development through the Office of Continuing Studies and Special Programs. Continuing studies programs offer the same course work and academic credit as traditional university courses and are fully degree-applicable within the normal standards of VCU's college and schools.

The office attempts to address the educational and professional training needs of the community by providing flexible, cost-effective instruction that returns valued and needed knowledge into the community.

Program examples include the Nonprofit Learning Point certificate program, profession-specific and introductory Spanish courses, specialization and recertification programs for teachers, off-campus degree programs including the R.N. to B.S.N. program, the NOVA M.S.W. program, and advanced-study courses for gifted high school students.

For more information, call (804) 828-8819 or visit [www.community.vcu.edu](http://www.community.vcu.edu).

[Off-Campus Graduate Art](#)  
[Master of Interdisciplinary Studies in Interdisciplinary Art](#)  
[Nonprofit Learning Point](#)

## Off-Campus Graduate Art

Since 1993, VCU has offered off-campus graduate art classes in locations from the Washington, D.C., area to Tidewater. Classes are open to all qualified students (persons with undergraduate degrees in art or equivalent experience), but are particularly designed for art teachers interested in license renewal, a graduate degree program or personal enrichment. During the fall and spring semesters, classes meet one evening per week, usually from 4:30 to 8:30 p.m. In the summer semester, classes are scheduled for 10 all-day workshops over a two- or three-week period. A degree program, the Master of Interdisciplinary Studies in Interdisciplinary Art, is offered, but students need not be in a degree program in order to take classes. For more information, call (804) 592-2600 or visit [www.community.vcu.edu](http://www.community.vcu.edu).

## Master of Interdisciplinary Studies in Interdisciplinary Art

The Master of Interdisciplinary Studies in Interdisciplinary Art degree is jointly administered by the School of the Arts and the Division of Community Engagement. It is not the equivalent of a Master of Fine Arts degree, but is an additional option for qualified persons, especially art teachers, who are interested in studio art classes. Classes are offered in public school art rooms from Fairfax County to Virginia Beach, in the late afternoon during the regular school year and in all-day workshops during the summer. The M.I.S. degree requires the completion of 39 graduate credits, including at least nine and no more than 15 credits in each of two focus areas. Focus areas include, but are not limited to, crafts, computers and the arts, mixed media, painting, photography, printmaking, drawing, and sculpture. In addition, the student must complete from three to 15 credits of art electives and six credits of an approved final project, including a graduate exhibition and a final paper. For more information, call (804) 828-8819 or visit [www.community.vcu.edu](http://www.community.vcu.edu).

## Nonprofit Learning Point

Since 1997 the university has been a leading partner in a community collaborative that sponsors Nonprofit Learning Point (formerly the Especially for Nonprofit Organizations Program). In addition to being a sponsoring partner, VCU also manages the program, which provides educational and networking opportunities as well as capacity-building for the vast network of nonprofit organizations in the greater-Richmond area. The program is open to any paid or volunteer staff member of a nonprofit organization and offers the chance to earn both academic credit and a certificate of achievement in nonprofit management (after 12 courses). Classes usually meet for two days, one week apart, from 9 a.m. to 3 p.m., throughout the city of Richmond. An annual conference and certificate awards ceremony are held each fall. Class and conference topics include, but are not limited to, strategic management, communications, legal issues for nonprofits, and technology skills. For more information, call (804) 827-0246 or visit [www.nonprofitlearningpoint.org](http://www.nonprofitlearningpoint.org).

## Office of VCU Community Solutions

The primary mission of VCU Community Solutions is to connect the university with the community to create opportunities for social change. Campus and community partners create a unique synergy of collaborative research, teaching and service. An interdisciplinary team of faculty and community partners is responsible for the generation and implementation of community-based projects. Students become involved through service-learning courses and participation on community-based research teams. For more information, call (804) 828-8824 or visit [www.community.vcu.edu](http://www.community.vcu.edu).

[Service-Learning](#)  
[VCU America Reads Program](#)  
[VCU AmeriCorps](#)  
[Carver-VCU Partnership](#)

## Service-Learning

Service-learning integrates community service with traditional academic courses in order to enhance academic learning, facilitate the development of students into responsible citizens and meet community-identified needs. Each student participates in an organized community service project that directly relates to the subject matter of the course and which meets community-identified needs. The students then participate in reflection activities, which are facilitated in such a way so as to increase their understanding and application of course content and enhance their sense of civic responsibility. The community organization defines the service need and the students learn and grow from their service through reflection on their experience. A listing of service-learning courses is provided in the [Schedule of Classes](#) each semester. For more information, call (804) 827-8215 or visit [www.servicelearning.vcu.edu](http://www.servicelearning.vcu.edu).

## VCU America Reads Program

The VCU America Reads Program places college work-study students in local elementary schools to provide comprehensive reading support to students who are below grade level in reading. The program works in partnership with Richmond City Schools as well as schools in the surrounding counties to identify elementary school children who are in need of extra assistance. Reading support is provided at

partner schools during the normal school day as well as during academically focused after-school programs. Program applications are available throughout the year at the following locations:

- Community Programs Office located at 1103 W. Marshall St.
- VCU [Career Center](#) and [Student Activities Center](#) located in the University Student Commons, 907 Floyd Ave.
- VCU Office of Financial Aid located at 1015 Floyd Ave.

For more information, visit [www.community.vcu.edu](http://www.community.vcu.edu). Applications may also be downloaded at the America Reads Web site at [www.ed.gov/inits/americanreads](http://www.ed.gov/inits/americanreads) or they can be mailed upon request by calling (804) 828-1907.

## VCU AmeriCorps

Established in 1995, the AmeriCorps program at VCU has an educational focus with the goal of helping improve the literacy skills of local children and families. Reading by third grade has been identified by the Richmond community as a critical preventive strategy in addressing the health and safety needs of children in the metro area. VCU AmeriCorps members address this need by providing comprehensive reading support to elementary school students who are struggling academically. Members also enhance family literacy skills and parent involvement at partner schools by lending support to existing services as well as developing new programs to meet specific needs. Applications are available beginning in March at the following locations:

- Community Programs Office located at 1103 W. Marshall St.
- VCU [Career Center](#) and [Student Activities Center](#) located in the University Student Commons, 907 Floyd Ave.
- VCU Office of Financial Aid located at 1015 Floyd Ave.

For more information, visit [www.community.vcu.edu](http://www.community.vcu.edu). Applications can also be downloaded at the AmeriCorps Web site at [www.americorps.gov](http://www.americorps.gov), or applications can be mailed upon request by calling (804) 828-1907.

## Carver-VCU Partnership

In the spirit that partnerships, not fences, promote safe and nurturing communities, VCU has created a partnership with its northern-boundary neighbor, the Carver community. The Carver-VCU Partnership strives to create a shared urban community with a commitment to improving the neighborhood's quality of life including its health, community development, youth development, and safety while extending the experience of the community into the classroom and the university. For more information, call (804) 827-1904 or visit [www.community.vcu.edu](http://www.community.vcu.edu).



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## **2013-14 Graduate and Professional Programs Bulletin**

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**Division of Student Affairs**

901 Floyd Avenue  
P.O. Box 843017  
Richmond, Virginia 23284-3017  
(804) 828-1244  
Fax: (804) 828-2180  
[www.students.vcu.edu](http://www.students.vcu.edu)

**Henry G. Rhone**  
Vice Provost for Student Affairs

**Reuban B. Rodriguez**  
Associate Vice Provost and Dean of Student Affairs

**Charles Klink**  
Associate Vice Provost for Student Affairs

**Napoleon Peoples**  
Associate Dean of Student Affairs, MCV Campus

The university offers students a wide variety of services, facilities and resources, many of which are the administrative responsibility of the Division of Student Affairs.

[Office of the Vice Provost for Student Affairs](#)  
[Office of the Associate Vice Provost and Dean of Student Affairs](#)  
[Office of the Associate Vice Provost of Student Affairs](#)  
[Office of the Associate Dean of Student Affairs, MCV Campus](#)

## Office of the Vice Provost for Student Affairs

**Henry G. Rhone**  
Vice Provost for Student Affairs

The Office of the Vice Provost provides leadership and direction for the Division of Student Affairs. The Division of Student Affairs is a dynamic division promoting academic success and development of the whole person. The division seeks to create a student-centered culture promoting community, encouraging engagement and developing students to be contributing citizens in a global and diverse society through its programs, services, facilities and activities.

The Division of Student Affairs comprises departments promoting the intellectual, cultural, personal, social, moral, financial, physical and psychological development of Virginia Commonwealth University students. Departments in the division include: Office of the Associate Vice Provost and Dean of Student Affairs, Monroe Park Campus; the Office of the Associate Dean of Student Affairs, MCV Campus; the Office of the Associate Vice Provost of Student Affairs; University Student Commons and Activities; the University Career Center; University Counseling Services; Disability Support Services; University Student Health Services; Office of Multicultural Student Affairs; Recreational Sports; Office of Student Conduct and Academic Integrity; Student Media; Financial Management and Technology; and Residential Life and Housing.

The division provides administrative support for key policies of the university, including the VCU Honor System and the Rules and Procedures. Most Division of Student Affairs publications are available on the Web at [www.students.vcu.edu](http://www.students.vcu.edu).

The Office of the Vice Provost for Student Affairs is located in the Sitterding House at 901 Floyd Ave., P.O. Box 843017, Richmond, VA 23284-3017; telephone: (804) 828-1244.

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## Office of the Associate Vice Provost and Dean of Student Affairs

**Reuban B. Rodriguez**  
Associate Vice Provost and Dean of Student Affairs

The Office of the Associate Vice Provost and Dean of Student Affairs is actively involved in understanding the needs of students, improving the quality of student life, supporting student success, promoting leadership development and disseminating important information for students. The office provides services and support to students through a wide range of programs, activities and resources. The office assists students in solving problems and advocates for students when appropriate. The office provides information and referral to students, faculty, staff and parents on a variety of student-related issues. The office provides oversight for the administration of the university's disciplinary procedures and the honor system.

The dean sits on a number of university committees, participates in orientation activities, provides supervision for several departments of the Division of Student Affairs and serves as a key administrator for several major policy statements of the university including the VCU Honor System.

Students, parents of students and staff who have issues they wish to discuss or who are interested in various programs and opportunities should visit the dean's office, located in the Sitterding House, 901 Floyd Ave., P.O. Box 843017, Richmond, VA 23284-3017; telephone: (804) 828-8940; email: [vcudean@vcu.edu](mailto:vcudean@vcu.edu).

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## Office of the Associate Vice Provost for Student Affairs

**Charles Klink**  
Associate Vice Provost for Student Affairs

The Office of the Associate Vice Provost for Student Affairs provides assistance to the vice provost for student affairs in the overall administration of the Division of Student Affairs. This office is actively involved in understanding students and their needs, improving the quality of student life, and collecting and disseminating information important to students and to the university.

The associate vice provost serves as the division ombudsman in addressing and resolving student issues and concerns inhibiting success at the university, provides leadership for assessment and professional development activities for the division, and oversees a number of initiatives focused on utilizing external and internal resources to support and recognize student success. The associate vice provost provides supervision for several departments in the division including the University Career Center, Disability Support Services, University Counseling Services and Student Media.

The Office of the Associate Vice Provost for Student Affairs is located in the Sitterding House at 901 Floyd Ave., P.O. Box 843017, Richmond, VA 23284-3017; telephone: (804) 828-7525; email: [cjklink@vcu.edu](mailto:cjklink@vcu.edu).

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## Office of the Associate Dean of Student Affairs, MCV Campus

**Napoleon Peoples**  
Associate Dean of Student Affairs, MCV Campus

The Office of the Associate Dean works closely with the Office of the Associate Vice Provost and Dean of Student Affairs in serving as a resource for students, parents, faculty and staff. The associate dean serves as the primary liaison between the organized student body on the MCV Campus and the university, providing coordination and leadership for student affairs and related staff.

The associate dean serves as the faculty adviser to the MCV Campus Student Government Association. The associate dean represents the Division of Student Affairs on several universitywide committees and also participates in the general orientation sessions for each school on the MCV Campus. The associate dean maintains an open-door policy and will advise students, parents, faculty and staff on university-related issues or procedures.

The associate dean's office is located in the Hunton Student Center, Suite 205, 1110 E. Broad St., P.O. Box 980004; telephone: (804) 828-0525; email: [npeoples@vcu.edu](mailto:npeoples@vcu.edu).

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## University Student Commons and Activities

**Reuban Rodriguez**  
Interim Director  
[www.usca.vcu.edu](http://www.usca.vcu.edu)

The facilities, services and programs of University Student Commons and Activities (USC&A) are designed and implemented to bring together all members of the Virginia Commonwealth University community — students, faculty, staff, alumni and guests — thereby contributing to intellectual, emotional and social growth through informal interaction.

[Facilities](#)  
[Programs](#)  
[Services](#)



## Facilities

USC&A manages three student centers on the Monroe Park and MCV Campuses of VCU.

The University Student Commons is the main student-life facility for the Monroe Park Campus. The Commons, located in the heart of VCU's Monroe Park Campus, is a great place to meet friends, host an event, get involved, or study. The Park Place Food Court, Commons Café and Commons Convenience provide a wide variety of dining options. Break Point, located in the Lower Level of the Commons, is the university's game room with pool tables, arcades and Thunder Bowl. The Commons is home to the Student Organization Center, Off-campus Student Services, University Career Center, University Counseling Services, Disability Support Services, the Office of Multicultural Student Affairs, and the Student Government Association.

The Hunton Student Center and the Jonah L. Larrick Student Center are both located on the MCV Campus. Hunton Student Center is a great place to study or grab a bite to eat between classes. The renovated 1841 church building has a state-of-the-art learning center, managed by VCU Libraries, along with spacious study areas on two floors including private group-study rooms. Also located in Hunton are the offices for the Associate Dean of Students, MCV Student Government Association, the Hideaway Café, and a student recreation area. Larrick is a multipurpose room used for dances, lectures, receptions, and other functions. The first floor of Larrick Student Center also serves as a student dining facility.

Information centers can be found at both the Commons and Hunton Student Center. A complete list of services and programs that these facilities offer is available online at [www.usca.vcu.edu](http://www.usca.vcu.edu).

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## Programs

USC&A offers a wide variety of programs and leadership opportunities for students on both the Monroe Park Campus and MCV Campus. The following programming offices are included in the USC&A: Monroe Park Campus and MCV Campus Programs Office, Fraternity and Sorority Life, Leadership Development, Student Organization Services, and Volunteer Services. Through these offices, several university traditions and major events are coordinated. These events include: Welcome Week, Student Organization-Volunteer Organization Fair, Jazz on the Green, Fraternity and Sorority Recruitment, RamMadness, Fall Fest, Homecoming, Speak from the Heart Speaker Series, Greek Week, STRUT Fashion Show, Student Organization Awards Ceremony, Saturday Volunteer Specials, and Leadership and Service.

Students are encouraged to participate in these university traditions along with participating in other programs and events offered during the week and weekends. A complete listing of programs and events is available online at [www.usca.vcu.edu](http://www.usca.vcu.edu).

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## Services

USC&A offers a wide variety of services for students and the entire VCU community including Information Services, Off Campus Student Services, Student Organization Services, and Volunteer Services.

Information Services staff provide campus directions and information about programs or events. More information can be obtained by calling (804) 828-1981 or visiting the Web at [www.usca.vcu.edu/information](http://www.usca.vcu.edu/information).

Off Campus Student Services offer a variety of ways to assist and educate those who drive, ride, walk or bus to campus. OCSS provides a Web-based housing search system, ride-share assistance, a care emergency tool kit for check-out, bicycle registration, educational programs and coin operated rental lockers. More information on Off Campus Student Services is available online at [www.usca.vcu.edu/offcampus](http://www.usca.vcu.edu/offcampus).

The Student Organization Service Center offers mail boxes, computer work stations, storage, work rooms, financial assistance for student organizations, general planning, and advising for all student organizations. SOSC staff assist students in identifying student organizations of interest. Volunteer Services provides information on opportunities to serve the greater Richmond community through volunteer experience. More information on volunteer opportunities is available online at [www.usca.vcu.edu/studentorgs/volunteer.htm](http://www.usca.vcu.edu/studentorgs/volunteer.htm).

## University Career Center

**Joe Testani**

Director

[www.students.vcu.edu/careers](http://www.students.vcu.edu/careers)

The University Career Center assists students and recent alumni to identify and achieve their career goals. Career Center staff work with students to help them explore career options, decide on career directions and develop sound strategies for realizing their career goals.

The Career Center offers a career library of more than 600 books and publications. Students have access to employer literature, recruiting brochures and graduate and professional school publications.

Career counseling sessions are offered by appointment using assessment tools such as the Strong Interest Inventory, the Self-Directed Search and the Myers-Briggs Type Indicator. Students may receive assistance with resume development, job search skills and interviewing techniques.

The Career Center maintains job postings of full-time, part-time, internship and co-op positions for students who are eligible. These postings may be accessed 24 hours a day through an account with the Career Center. Both on- and off-campus work-study positions for eligible students can be viewed online at [www.students.vcu.edu/careers](http://www.students.vcu.edu/careers).

The Career Center also offers a comprehensive Cooperative Education Program that blends traditional academics with paid work assignments in industry, business, government and nonprofit organizations. For additional information, including eligibility, go to [www.students.vcu.edu/careers](http://www.students.vcu.edu/careers) and the "Co-op" link.

Graduating students use the Career Center to interview with business, industry, government and education representatives who visit the campus to recruit prospective graduates for permanent positions in their respective organizations. Students are encouraged to sign up as participants in the Career Center's Web-based resume referral system called RamsRecruiting in order to be referred to employers and have access to job listings.

The University Career Center is located in the Student Commons, Room 143, 907 Floyd Ave., P.O. Box 8432007, Richmond, VA 23284-2007; telephone: (804) 828-1645.

## University Counseling Services

**Jihad Aziz**

Director

[www.students.vcu.edu/counseling](http://www.students.vcu.edu/counseling)

University Counseling Services provides psychological services to the university community. The mission of UCS is to create an environment that fosters student growth, development and psychological well-being.

Members of UCS' professional staff include clinical psychologists, licensed clinical social workers, a consulting psychiatrist, psychology and social work interns, and advanced graduate students. UCS provides free brief psychotherapy to currently enrolled students as available. UCS adheres to professional, legal and ethical guidelines established by professional organizations and state law to protect student confidentiality.

University Counseling Services include:

- **Counseling and psychotherapy.** Individual and couples work is designed to deal with personal and interpersonal issues.
- **Group counseling.** Ongoing psychotherapy groups focus on personal and social concerns.
- **Psychiatric services.** Limited services include medical evaluation, diagnosis and treatment with psychotropic medication.
- **Crisis services.** Walk-in crisis services during office hours (828-6200) and on-call crisis services after hours and on weekends (828-1234).
- **Consultation and outreach.** Presentations, workshops and staff consultation are available to student organizations, academic departments and other groups on issues relevant to each group's needs.
- **Safe zone.** Workshops for faculty and staff designed to reduce homophobia and heterosexism.

UCS has office locations on both campuses. The Monroe Park Campus office is located in University Student Commons, Room 238, 907 Floyd Ave., P.O. Box 842525, Richmond, VA 23284-2525; telephone: (804) 828-6200. The MCV Campus office is located in the basement of Grant House, 1008 E. Clay St., P.O. Box 980238, Richmond, VA 23298-0238; telephone: (804) 828-3964.

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## University Student Health Services

### Margaret Roberson

Medical Director

[www.students.vcu.edu/health](http://www.students.vcu.edu/health)

University Student Health Services offers quality primary health care for treatment of acute and chronic illness. In addition to diagnosis and treatment, the service emphasizes prevention of illness through screening, counseling and health promotion/public health programs. All full-time undergraduate and graduate students are required to pay the student health fee each semester. Part-time students enrolled in at least three credit hours have the option of paying the health fee. The summer fee is optional for all students who will be enrolled the following fall semester.

USHS professional staff includes physicians, psychiatrists, physician assistants, nurse practitioners, registered nurses, pharmacists, health educators and registered dietitians. Services offered include primary care clinics, allergy clinics (administration of allergy injections ordered and supplied by outside physicians), women's clinics, pharmacy and laboratory services, immunization services, health education/public health programs and an after-hours phone triage service provided for urgent medical advice.

USHS has office locations on both campuses. The Monroe Park Campus office is located in the Sports Medicine Building, 1300 W. Broad St., Suite 2200, P.O. Box 842022, Richmond, VA 23284-2022; telephone: (804) 828-8828; fax: (804) 828-1093. The MCV Campus office is located in the VMI Building, 1000 E. Marshall St., Room 305, P.O. Box 980201, Richmond, VA 23298-0201; telephone: (804) 828-9220.

[Immunization requirements](#)

[Health insurance](#)

[The Wellness Resource Center](#)

[Alcohol and other drug prevention education](#)

[Smoking cessation](#)

[Nutrition, eating disorders and body image](#)

[Sexual assault and domestic violence](#)

[Stress management](#)

[Sexual health](#)

### Immunization requirements

Virginia law requires all full-time students to submit an official certification of immunization to USHS prior to registration. These immunization requirements, along with the necessary forms, can be found at [www.students.vcu.edu/health/immunization.html](http://www.students.vcu.edu/health/immunization.html) and in the Handbook for Admitted Students.

All students regardless of enrollment status, whose birth country is not the U.S. or Canada, are required to complete the tuberculosis screening in the U.S. within the last year.

Students enrolled in health career programs may be required to submit additional immunization information and should contact their school for additional requirements.

### Health insurance

The university is not responsible for accidents occurring to students in connection with class, laboratory, shop, fieldwork, athletics, student activities, travel or any other activity.

The university offers its students an approved insurance plan providing substantial benefits at group rates. The insurance extends for a 12-month period beginning in August, or from the beginning of the second semester to the next August, and includes coverage for accidents, hospitalization, medical, surgical and other benefits for illnesses. Married students may enroll spouses and children. The university strongly recommends that all students enroll in student group health insurance.

Complete information about enrolling is available from USHS and on the Web at [www.students.vcu.edu/health/health\\_insurance.html](http://www.students.vcu.edu/health/health_insurance.html).

### The Wellness Resource Center

(804) 828-9355

[www.thewell.vcu.edu](http://www.thewell.vcu.edu)

The Wellness Resource Center (aka “The Well”) is located at 815 S. Cathedral Place and is the prevention education outreach component of Student Health. The Wellness Resource Center is engaged in the science of empowering all students to move toward optimal health — a balance of physical, emotional, social, intellectual and spiritual health. The center’s staff is committed to helping VCU students learn more about health through individual sessions, group presentations and awareness events. Most services are free to VCU students. There are many volunteer opportunities for students at the center, including several peer health educator groups.

### Alcohol and other drug prevention education

(804) 828-2086

If you are concerned about your use or someone else's use, please feel free to call our office for resource information. Education programming is available upon request. A free online anonymous self-assessment is available at [www.thewell.vcu.edu](http://www.thewell.vcu.edu) (code word is vcrams).

### Smoking cessation

(804) 828-7815

Free Quit Kits, information and individual appointments are available to help students quit tobacco use. Email [quit@vcu.edu](mailto:quit@vcu.edu) for additional information and resources.

### Nutrition, eating disorders and body image

(804) 828-9355

Education on healthy eating or eating disorder recovery is available through confidential individual nutrition sessions. Programs on nutrition, body image and eating disorders are available to student groups and classes.

### Sexual assault and domestic violence

(804) 828-2085

Confidential services are available for students with concerns surrounding sexual assault, stalking, sexual harassment and relationship violence. Staff help students identify needs (medical, legal, counseling, academic) and refer to appropriate campus and/or community resources.

### Stress management

(804) 828-0231

Individual stress management consultations are available. Stress management workshops are available upon request to student groups and classes.

### Sexual health

(804) 828-9355

Education concerning sexually transmitted infections, including HIV, and contraception is provided to individual students or student groups as requested.

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## Residential Life and Housing

### Reuban Rodriguez

Interim Director

[www.housing.vcu.edu](http://www.housing.vcu.edu)

VCU’s diverse on-campus housing options are designed to meet the needs of any student who chooses to experience residential living. The VCU Residential Life and Housing Office operates a variety of 9- and 12-month living facilities, including traditional residential rooms, suite- and apartment-style buildings, and high-rise residence halls. Approximately 5,000 students choose to live on campus each year.

Residential life at VCU offers many rewards and provides students with the opportunity to gain personal experiences that supplement and complement the formal education gained in classrooms and laboratories. The Residential Life and Housing program offers students the chance to make new friends, meet like-minded academic peers, and develop leadership skills through participation in social, academic, governmental and judicial organizations.

The staff of the VCU Residential Life and Housing Office is dedicated to providing community living situations that support each student’s academic, personal and extracurricular pursuits, and its goal is to offer a sense of belonging

for every residential student. Each residence hall is staffed with a coordinator of residence education, a housing manager, at least one resident director, and many in-house resident and community assistants.

New freshman students who submit a housing application by June 1 are guaranteed residential housing. Housing contracts for freshman residence halls are based on the nine-month academic calendar; housing contracts for residence facilities specified for upperclassmen are a combination of 9- and 12-month agreements. Single-semester contracts are available only to new students who enter the university in the spring semester. (See [Room fees and housing costs](#) section in “Tuition, fees and expenses.”)

All residence hall rooms are furnished and are wired for Internet, cable and telephone service. For detailed information regarding all VCU residence halls, including features and furnishings, visit the Residential Life and Housing Web site at [www.housing.vcu.edu](http://www.housing.vcu.edu), or contact the Central Housing Office, Gladding Residence Center Room 159, 711 W. Main St., P.O. Box 842517, Richmond, VA 23284-2517; telephone: (804) 828-7666.

## Recreational Sports

**Tom Diehl**

Director

[www.recsports.vcu.edu](http://www.recsports.vcu.edu)

Recreational Sports provides a variety of programs, services and facilities designed to meet the leisure and health needs of the VCU community. All currently enrolled students with valid identification are eligible to use all facilities. VCU and VCUHS staff, VCU faculty, alumni, retirees and selected contract employees are also eligible to join as members; details and fees are available in the membership section of the Recreational Sports website.

## Recreational sports programs

### Informal recreation

Available at all facilities and includes drop-in use of the fitness centers, gymnasiums, swimming pools, court space and the Cary Street Field.

### Intramural sports

Leagues and tournaments offered throughout the year at various skill levels, as well as men's, women's and corecreational divisions. Sports include basketball, flag football, softball, racquet sports, volleyball, soccer, ultimate Frisbee and dodgeball.

### Fitness programs

Programs include free group exercise classes, personal fitness training services, fitness incentive programs and instructional programs.

### Outdoor Adventure Program

The OAP provides reasonably priced outdoor recreational trips. Activities such as camping, kayaking, climbing, cross-country skiing and more are offered throughout the year and facilitated by experienced trip leaders. For those planning their own outdoor activities, the Outing Rental Center offers equipment such as canoes, tents, backpacks, sleeping bags and trail guides at nominal cost. For additional information, call (804) 828-6004.

### Sport clubs

Clubs give students the opportunity to train and compete against other colleges in a variety of sports. Clubs vary in focus and programming as student members manage the operation of the club and decide on club activities.

### Aquatics programs

Programs are held at both Cary Street Gym and MCV Campus Recreation and Aquatic Center. Members can take advantage of learn-to-swim programs for adults and children, water exercise and incentive programs, and aquatic certification programs.

## Recreational Sports facilities

Recreational Sports operates five facilities encompassing two fitness centers; two gyms with courts for basketball, volleyball, badminton and table tennis;

racquetball and squash courts; three swimming pools; a climbing wall and a bouldering wall; an artificial-turf indoor multipurpose activity center; group exercise studios; cycling studios; martial arts room; lighted, artificial-turf field; a tennis center; and a lighted outdoor basketball court. Both fitness centers offer free weights, selectorized equipment and cardiovascular equipment, as well as televisions that feature Comcast cable. Student organizations may make reservation requests for facility space when available.

Facilities include:

- Cary Street Gym, (804) 827-1100
- Cary Street Field, (804) 827-2526/827-2527
- The Outing Rental Center, (804) 828-6004.
- MCV Campus Recreation and Aquatic Center, (804) 828-6100.
- Thalheimer Tennis Center, (804) 828-1458.

## Student media

**Greg Weatherford**

Student Media Director

[www.vcustudentmedia.com](http://www.vcustudentmedia.com)

Student Media encourages involvement of students in variety of student publication and broadcasting opportunities including: The Commonwealth Times (independent student press of VCU), Ink (news-features magazine), Poictesme (literary fiction journal), Amendment (literary journal), and WVCW (radio station). All media are student run enterprises.

The Student Media Center is home to these student publications and the radio station. The center is located at 817 W. Broad St., P.O. Box 842010, Richmond, VA 23284-2010; telephone: (804) 828-1058.

## Student and university governance

The University Council, an advisory board to the university president, is the highest internal governance body at VCU. The council is made up of 27 faculty members, 10 students, 10 administrators, 10 classified staff members and four subcommittees: the Committee on Student Affairs, the Committee on Academic Affairs, the Committee on Faculty Affairs and the Committee on Classified Staff Affairs.

The Student Governance structure includes the Monroe Park Campus Student Government Association, the MCV Campus Student Government Association, the Programming Commission and the Student Media Commission.

The Monroe Park Campus Student Government Association is an elected body of students from the Monroe Park Campus who are organized into three branches — executive, legislative and judicial — with various committees. Legislative standing committees include academic affairs, appointments, appropriations, elections, human relations, legislative issues and civic action, publicity, and student life. The executive branch has cabinet positions that mirror legislative committees. Nonelected, at-large members are encouraged to join most of these committees. All meetings of the senate are open to the public.

The MCV Campus Student Government Association Executive officers are elected by the organization. Representatives are elected from each class in each of the health science schools on the basis of one representative per 40 students. MCV Campus SGA meetings are held monthly from September through April and are open to all MCV Campus students. The MCV Campus SGA sponsors several social functions including the MCV Campus Winter Ball and study breaks.

Additional information about the Monroe Park Campus and MCV Campus Student Government Associations may be found at [www.vcu.edu/sga](http://www.vcu.edu/sga).

The Programming Commission coordinates programs and events planned by student organizations that specialize in major event planning. Members of the Programming Commission include: Activities Programming Board, Fall Block Step Show Planning Committee, Homecoming Planning Committee, and the InterCultural Festival Planning Committee.

The UCSC administrative office is located in University Student Commons, Room 104, 907 Floyd Ave., P.O. Box 842032, Richmond, VA 23284-2032; telephone: (804) 828-6500.

## Office of Student Conduct and Academic Integrity

**Karen Belanger**

Director

[www.students.vcu.edu/studentconduct](http://www.students.vcu.edu/studentconduct)

The Office of Student Conduct and Academic Integrity supports the educational mission of the university by educating students about appropriate behavior and fostering a community supporting academic success. The office takes the lead in the enforcement of university policies, as outlined in the “Virginia Commonwealth University Rules and Procedures” and the “VCU Honor System,” providing a fair and impartial process for the adjudication of matters of student discipline. The Office of Student Conduct and Academic Integrity works in conjunction with university offices to administer the policies for Residence Hall Students and Student Off-campus Conduct, the VCU Alcohol and Drug Policy, the Student Sexual Misconduct Policy, and the Computer and Network Resources Use Policy. Rules and Procedures and the VCU Honor System, are available online at [www.provost.vcu.edu/policies](http://www.provost.vcu.edu/policies).

The Office of Student Conduct and Academic Integrity is located in University Student Commons, Suite 106, P.O. Box 843071; telephone: (804) 828-1963.

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## University policies and procedures

A number of policies and regulations at VCU affect students, and many of these are printed in the general information chapters of this bulletin. Three policy documents are of particular interest to students.

The VCU Rules and Procedures document outlines the rights, responsibilities and privileges of each member of the university community and describes cases when disciplinary action, including separation from the university, may be taken against a member of this community as a result of prohibited behavior as outlined in this document. The VCU Honor System defines academic dishonesty and provides a procedure for judging alleged violators of academic integrity. The Grade Review Procedure outlines the process whereby students may appeal grades that they feel have been assigned unfairly.

Each student is responsible for being familiar with the provisions of all university policies and regulations. The three policy documents described above are printed in full along with the VCU Insider Student Handbook and Resource Guide, which is made available on the Web at [www.students.vcu.edu/insider.html](http://www.students.vcu.edu/insider.html).

## VCU Honor System

VCU recognizes that honesty, truth and integrity are values central to its mission as an institution of higher learning.

The VCU Honor System describes the responsibilities of students, faculty and administration in upholding academic integrity, while respecting the rights of individuals to the due process offered by administrative hearings and appeals. All people enrolled in any course or program at VCU and all people supervising the learning of any student are responsible for acting in accordance with the provisions of the VCU Honor System.

The honor system gives definitions and illustrative examples of five acts which are violations of the policy, namely: cheating, plagiarism, facilitating academic dishonesty, stealing and lying. There are six penalties for students found guilty of these honor system violations. They are honor probation, assignment of grades, suspension, expulsion, revocation and other relevant sanctions.

See the VCU Honor System, published in full in the VCU Insider, [www.students.vcu.edu/insider.html](http://www.students.vcu.edu/insider.html).

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## Office of Multicultural Student Affairs

**Faith A. Wilkerson**

Interim Director

[www.omsa.vcu.edu](http://www.omsa.vcu.edu)

The Office of Multicultural Student Affairs is a resource for students, faculty and staff. The primary mission of OMSA is to assist traditionally underserved and/or underrepresented student populations (race, ethnicity, sexual orientation, gender) through advising, support, program development, retention efforts and promoting an appreciation of diversity throughout the campus community.

OMSA service and program components include diversity training, leadership development, referral services, cultural programming, discussion groups, collaboration and partnership development, multicultural resources and scholarship information.

The staff members of OMSA are dedicated to serving as advocates for multicultural students' concerns and interests while providing advice to a wide array of multicultural groups.

All students are urged to visit the Office of Multicultural Student Affairs located in the University Student Commons, 907 Floyd Ave., Room 215, P.O. Box 843080, Richmond, VA 23284-3080; telephone: (804) 828-6672.

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## Disability Support Services

**Joyce Knight**

Coordinator

[www.students.vcu.edu/dss](http://www.students.vcu.edu/dss)

VCU is committed to providing students with disabilities equal opportunities to benefit from all programs, services and activities offered.

Disability Support Services provides:

- Support services including, but not limited to, advocacy, adapted materials, alternative testing, academic and career advising.
- Recommendations for appropriate academic adjustments including exam modifications, classroom accommodations, and auxiliary aids supported by recent documentation.
- Assistance to the VCU community in complying with the provisions of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1974.
- Liaison services between faculty and students with disabilities.
- Technical assistance to university departments.
- Current and accurate information regarding disability-related products, programs and services to current and prospective students, faculty and staff.
- Consultation with secondary schools, special educators, rehabilitation or high school counselors, parents and prospective students concerning university services for students with disabilities.
- A welcoming place for students to meet, share, study, and obtain information concerning disability related issues and opportunities.

Students with disabilities are responsible for self-identification prior to requesting services/accommodations. Students are strongly encouraged to request accommodations at least four weeks prior to the first day of classes; however, students may request accommodations at any time during enrollment at VCU. For additional information visit [www.students.vcu.edu/dss](http://www.students.vcu.edu/dss).

The Disability Support Services office is located in the Student Commons, Room 102, PO Box 842529, Richmond, VA 23284-2253; telephone/TDD: (804) 828-2253; fax: (804) 828-1944.

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## Division of Student Affairs courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to cooperative education ([COOP](#)) [courses](#)



**VCU**

**Make it real.**

## **2013-14 Graduate and Professional Programs Bulletin**

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**Global Education Office**



817 West Franklin Street  
P.O. Box 843043  
Richmond, Virginia 23284-3043  
Phone: (804) 828-8471  
Fax: (804) 828-2552  
[www.global.vcu.edu](http://www.global.vcu.edu)

**R. McKenna Brown**  
Executive Director

The Virginia Commonwealth University Global Education Office promotes a variety of faculty and student activities in a global context. GEO's mission is to advance the internationalization of the University in cooperation with the VCU academic programs, as well as with other administrative offices. GEO currently offers programs and services in faculty exchanges, university overseas linkages and agreements of cooperation, education abroad and student exchanges, international student and scholar advising, and international student recruitment and admissions. Additionally GEO offers an intensive English Language Program.

The executive director advises faculty, departments, schools and the college in their efforts to expand their international activities and linkages. The executive director also serves as the initial contact for off-campus groups and agencies requesting information on international activities at the university as well in drafting agreements with overseas institutions, in consultation with the appropriate VCU constituencies.

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## Education Abroad

**Stephanie Davenport**  
Director

Founded in the belief that an international and multicultural perspective is invaluable to university students today, VCU Education Abroad encourages students from all majors and fields of interest to include study abroad and international exchange as part of their educational career. The benefits of education abroad are many. Students will learn to understand and function in different cultures, thereby developing a broader understanding of the ways the world works; increase knowledge of and facility in a foreign language; understand differences in educational styles and systems; and increase employment marketability upon graduation.

To accomplish these goals successfully, students are encouraged to study in another cultural setting for a summer, semester or full academic year as part of their degree program. VCU Education Abroad was established to assist students in accomplishing these goals by providing information, advising and by administering study abroad programs. VCU offers the programs listed below to encourage students to participate in overseas and external study.

Participants must be in good standing with the university with two full semesters of consecutive, successful full-time enrollment prior to participation. Please note that individual program requirements may vary.

## Program offerings

### VCU Summer Study Abroad

Each year faculty members lead short-term summer study with intensive instruction in an international context. Students may elect courses ranging from an intensive foreign language experience to art, business, and humanities programs. New programs are created every year in countries as diverse as Barbados, Spain, Guatemala, Peru, Italy, Germany, Mexico, France and China.

### International Student Exchange Program

International Student Exchange Program is a network of 275 colleges and universities in 39 countries and provides exchange opportunities for a summer, semester or academic year. ISEP is well-suited for mature, independent students who wish to be fully immersed into the host culture. Students usually enroll directly into their host university and take classes in the host language. A wide variety of options to study in English is also available. ISEP offers an affordable option to study abroad — many of its locations' charges are based on VCU tuition, fees, and room and board.

### Departmental exchanges

VCU has negotiated a number of direct student exchange agreements arising out of specific interest in the university community. Students pay their tuition and fees at VCU, and enroll directly in the chosen host university.

### Independent study abroad

Independent study abroad is for students who wish to study in a field not covered by any of the above study-abroad options. Students may elect to participate in a program offered by another university or organization. VCU Education Abroad will assist students in identifying and applying to the program, maintaining their VCU status while away, and securing financial aid where appropriate. All programs must be approved by VCU.

Except for summer programs offered for VCU credit, all credit received through study abroad will appear on the students' transcripts as transfer credit. Students must earn the equivalent of a "C" or higher for credit to be awarded. Grades are not calculated into the GPA, unless a student is attempting to graduate with honors.

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## English Language Program

**Lisse Hildebrandt**  
Interim Director

The English Language Program offers an intensive university-preparation language program for nonnative speakers of English and serves international students, U.S. citizens, permanent residents and refugees.

Core courses are offered at 10 levels of instruction — beginning through advanced — in five eight-week sessions per year. Core courses include: writing and grammar, reading and vocabulary, listening, speaking and pronunciation. Additional elective courses in American language and culture, as well as extracurricular learning opportunities, such as conversation partners and cultural/educational activities, are available to students.

Admission to the ELP may be recommended by the VCU Office of Undergraduate Admissions and International Admissions Office at the time of the application review. Students who want only English-as-a-second-language courses may apply directly to the program.

Placement in the ELP is based on the results of the English Language Placement Examination, a three-hour test in four parts: listening, reading, writing and an oral interview. Students receive their test results by meeting individually with an adviser, who makes recommendations, answers questions and registers students in the appropriate ELP course(s).

### More information

For more information, students may contact the English Language Program Office at 817 W. Franklin St.; by phone at (804) 828-2551; by fax at (804) 828-2552 or by e-mail at [geo@vcu.edu](mailto:geo@vcu.edu).

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## Immigration Services

**Ingrid A. Mercer**  
Director

Immigration Services serves international students and scholars by keeping them informed of all U.S. immigration laws and regulations. This unit provides assistance in obtaining appropriate visas and information and counseling to guide students (F-1), scholars, researchers, visitors (J-1), temporary specialized employees (H1B and TN), and all dependents within the university community so that they can successfully pursue and complete their academic goals.

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## International Admissions

**Blair W. Brown**  
Director

VCU encourages qualified international students to seek admission to the university through the International Admissions Office. For complete information and application materials, students should write, fax, e-mail or download the application from the Web and contact International Admissions, Virginia Commonwealth University, 817 W. Franklin St., P.O. Box 843043, Richmond, VA 23284-3043, USA; call (804) 828-6016, e-mail [vcuia@vcu.edu](mailto:vcuia@vcu.edu) or access the Web at [www.global.vcu.edu/students/admissions](http://www.global.vcu.edu/students/admissions).

Applicants must complete the International Application for Undergraduate Admission form and submit academic records that demonstrate successful completion of secondary school education — usually 12 years of pre-university study in their own country.

As required by U.S. regulations and by VCU admission policies, nonimmigrant applicants must demonstrate satisfactory academic achievement, adequate English proficiency, and the ability to finance all educational and living expenses.

Applicants can refer to the freshman admission guidelines, transfer admission guidelines and admission procedures in the “[Admission to the University](#)” section of this bulletin for specific program requirements.

VCU is unable to provide financial support for international undergraduate students. Therefore, an applicant who needs a student visa must present documented evidence of available financial support to cover living and educational expenses while studying at VCU.

#### English language proficiency requirements

To ensure maximum benefits from academic study at VCU, all nonnative English-speaking applicants, regardless of immigration status, must provide evidence of English language proficiency before admission and/or before enrollment in the university. English language proficiency is evaluated on factors such as amount and type of formal American education, TOEFL scores and Scholastic Aptitude Test scores.

In general, VCU requires a minimum score of 550 (paper-based), 213 (computer-based) or 80 (Internet based) on TOEFL for admission for undergraduate students. The university reserves the right to require additional testing and study in the VCU English Language Program prior to full-time enrollment in university courses.

#### Nonimmigrants (students with temporary U.S. visas)

Because of time constraints involved in processing international applications and obtaining visas, prospective international undergraduate applicants should submit all required admission and financial credentials at least three months before they plan to enroll. Applicants who are unable to meet the document submission deadline may not have time to obtain the necessary visa for study at VCU.

Proof of current visa type must be submitted to the International Admissions office before enrollment, unless the applicant is requesting an F-1 or J-1 visa. Students possessing F-1 or J-1 visas admitted to VCU must submit copies of all immigration documents to the VCU International Student Adviser before enrolling in classes.

#### Immigrants (permanent residents, refugees and asylees)

Since immigrant applicants usually are in the U.S. at the time an application is submitted, these students must meet the same application deadlines as American citizens. Immigrants should submit their applications to the Office of Undergraduate Admissions. If educated in the U.S., immigrant applicants are considered under the same academic policies applicable to U.S. citizens. If educated outside this country, the same academic records are required as those for nonimmigrant applicants.

VCU requires detailed information about U.S. immigration status. Proof of permanent residency or of refugee and asylee status must be submitted with the admission application.

## International Student Recruitment

**Robert A. Wood**  
Associate Director

Empowered by presidential initiatives and strong institutional commitment to internationalize Virginia Commonwealth University, the Global Education Office recruitment staff has embarked upon a proven in-depth international student and scholar recruiting effort. The four-year-old recruiting initiative has been successful, resulting in a 67 percent increase in the university's international student enrollment from 640 students in 2004 to more than 1,100 in the fall of 2006.

VCU representatives travel overseas to attend educational fairs, and visit secondary schools and advanced degree institutions to recruit highly qualified undergraduate and graduate students for all disciplines. The quality and scope of majors in VCU's liberal arts college and 15 schools, as well as the welcoming nature of the international admissions policy, make VCU a strong and attractive choice for American education for many students. GEO international recruiting also engages students via the VCU websites and other electronic and media outlets. Ongoing contacts with school and university counselors and private education admissions are a priority.

Focus for travel has been to the emerging international student markets in the areas of the Middle East and Gulf regions, the Far East and Pacific Rim countries, southern Asia and Latin America. The office also takes advantage of the university's close proximity to Washington, D.C., to visit and contact embassy educational ministries for access to scholarship students. International recruiting

by the Global Education Office plays a vital role in diversifying and enhancing the international community at VCU and in the greater-Richmond area.

## International Student and Scholar Services

**Pamela O. Haney**  
Director

**Robert A. Wood**

Coordinator of Student and Scholar Services and Associate Director of International Recruitment

International students face many challenges when entering a new country. GEO's International Student and Scholar Services offers assistance and guidance to students as they adjust to a different culture and pursue their educational goals. Student and Scholar coordinators help with pre- and post-arrival concerns, such as airport pick-ups, housing, banking, health insurance and other orientation activities.

Support continues throughout an international student's stay at VCU. The Student and Scholar Services staff assists, advises and refers students with nonacademic issues, including personal, legal, health and cultural. Academic and immigration matters are referred to appropriate advisers. The coordinators also confer with VCU faculty, staff and university officials regarding student concerns.

A student's American experience extends beyond the classroom. Student and Scholar Services offers educational, cultural and social activities that promote international understanding and community. The weekly International Student Coffee Hour is a casual gathering where students meet and make friends, practice spoken English and learn about upcoming VCU activities. Students are encouraged to participate in other monthly GEO-sponsored activities, such as camping, skiing, visiting historical sites and tours of Washington, D.C., or New York City.

GEO also recognizes the importance of a support network, particularly when students are far from family and friends. In addition to the International Student Coffee Hour and monthly activities, Student and Scholar Services also provides opportunities for students to develop relationships with those in the VCU and Richmond communities. American volunteers extend the hand of friendship as conversation partners, friendship partners and hosts for holiday visits.

For information or assistance, please contact International Student and Scholar Services, Global Education Office, 817 W. Franklin St., at (804) 828-0808, by fax at (804) 828-2552, or by e-mail at [rawood@vcu.edu](mailto:rawood@vcu.edu) or [pohaney@vcu.edu](mailto:pohaney@vcu.edu).



## **2013-14 Graduate and Professional Programs Bulletin**

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**Office of Research**

800 East Leigh Street  
P.O. Box 980568  
Richmond, Virginia 23298-0568  
Phone: (804) 827-2262  
Fax: (804) 828-2051  
[www.research.vcu.edu](http://www.research.vcu.edu)

**Francis L. Macrina, Ph.D.**  
Vice President for Research

The mission of the Virginia Commonwealth University Office of Research is to create an environment that enables our investigators to: 1) effectively compete for research funding, 2) responsibly conduct research in compliance with mandated policies and 3) broadly disseminate knowledge gained and discoveries made.

Research universities provide the nexus of discovery, education and service. The research process evolves into scholarly publication, enlightening histories, interpretative arts, lifesaving drugs and remarkable innovations ranging from nanotechnology to macroeconomics. Each day VCU researchers make progress toward improving our quality of life and our understanding of the world around us.

Research at VCU provides an incubator for training new scholars and a new generation of students who understand where and how knowledge is formed. No matter their chosen career, all researchers benefit from the curiosity instilled and the recognition that learning is a lifelong process.

The research enterprise at VCU has made substantial forward steps in recent years, doubling the sponsored award base, renovating laboratories, rebuilding the research subjects' protection program and investing in state-of-the-art animal care equipment and facilities.

The VCU Office of Research seeks to partner with faculty in all schools and departments as they seek funding, plan studies, establish collaborations, calculate budgets, submit grant applications, negotiate industry contracts and secure patents and licensing agreements. Skilled staff within each of the major divisions — sponsored programs administration, research subjects protection, animal research, technology transfer, industry partnerships, and education and oversight — look forward to helping VCU faculty in all realms of the research process.

Affiliated research institutes include the Center for Clinical and Translational Research (and its Research Incubator), the Institute for Drug and Alcohol Studies; the Philips Institute of Oral and Craniofacial Molecular Biology; the Virginia Institute for Psychiatric and Behavioral Genetics; the Institute for Structural Biology and Drug Discovery; and the Institute for Women's Health.

## Center for Clinical and Translational Research

1200 East Clay Street  
P.O. Box 980261  
Richmond, Virginia 23298-0261  
Phone: (804) 827-1531  
Fax: (804) 827-1510  
[www.cctr.vcu.edu](http://www.cctr.vcu.edu)

**John N. Clore, M.D.**  
Director

The Center for Clinical and Translational Research at Virginia Commonwealth University provides the necessary longitudinal and cross-disciplinary network, culture and infrastructure for identifying promising discoveries made in the laboratory, testing them in animals and developing trials and studies for humans.

Joint participation of researchers from across the university is critical to this mission. Partnerships with foundations and industry — particularly the support of the Virginia BioTechnology Research Park — is also crucial for moving these discoveries to the clinic. At the same time, mutually beneficial partnerships with community practitioners, community organizations and patients enhance the adoption of evidence-based best practices in general clinical practice and thus deliver improved medical care to the region.

The center offers a corridor in which participants in the translational research continuum can meet, interact and advance each others' missions. Bench and computer scientists will learn from animal models and clinician observations. Clinical researchers will recognize the need for communication with basic scientists to direct experimental design. Community practitioners will better understand their role in informing the clinical research process and participating in

pragmatic clinical trials. Patients will develop a higher comfort level with "medical research."

The center also serves as the administrative unit for the interdisciplinary graduate degrees in clinical and translational sciences.

## Research Incubator

The Clinical and Translational Research Incubator is designed to serve as a hub for resources and networking opportunities for established researchers and junior clinical investigators who are working on novel, interdisciplinary and collaborative clinical research at VCU. The RI will support its investigators by coordinating and optimizing current resources and by developing innovative new resources to facilitate the research process. It is anticipated that faculty researchers from the schools of Allied Health Professions, Dentistry, Education, Engineering, Medicine, Nursing, Pharmacy and Social Work, as well as the College of Humanities and Sciences, will access services at the RI.

## Clinical and translational research courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to [clinical and translational research \(CCTR\) courses](#).

## Degree requirements for clinical and translational sciences

### Credit requirements

Students are required to complete course work in core and elective courses and to conduct significant research. Students entering the Ph.D. program are required to earn a minimum of 54 hours of graduate-level credits; students in the M.S. program must earn 30 credits.

### Grade requirements

Degree applicants must achieve an overall GPA of 3.0 (B) with a grade of C in no more than two courses. The GPA for graduation shall be based on all graduate courses attempted after acceptance into the program.

### Transfer and M.S. credits

Graduate-level course work completed prior to matriculation into the program, including course work taken in another program at VCU or at another institution, shall be evaluated to determine whether it can be used to fulfill degree requirements of this program. Transfer of credits will be limited to those allowed by the university. A minimum grade of B is required for credits to transfer.

## Research advisers and committee

The director of the CCTR education program or his/her designee will assist the student with initial course selection and provide advice concerning the program. All students should select their master's or doctoral co-advisers and finalize the composition of their Research Advisory Committee prior to the end of their second semester of study.

The student's co-advisers shall provide each student enrolled in the master's or doctoral program with individualized recommendations regarding course work selection, workshop experiences and the direction of their research. It is essential that each student be comprehensively assessed in the area of their methodological and research background. Particularly in the case of those pursuing the Ph.D., recommendations will be made to ensure that each student has acquired the needed substantive research background necessary for doctoral-level work. Thus, the total credits required for graduation will be determined on a case-by-case basis by the individual student's Research Advisory Committee.

The committee will consist of a minimum of five members, all of whom must be members of the VCU graduate faculty. Note: Individuals who are not already graduate faculty members must apply to the dean of the Graduate School for temporary membership. The composition of the Research Advisory Committee shall be such that the significant areas of the student's research focus are represented. To foster the interdisciplinary intent of this degree program, at least one member of the committee shall be from a school other than those of the

student's co-advisers. Final approval of each student's advisory committee membership shall rest with the CCTR Education Program Committee.

## Admission to candidacy for the Ph.D.

Before admission to candidacy for the Ph.D., students must have 1) completed all required course work (as noted above, through a comprehensive screening process students will have been evaluated to assure that they have grounding in a relevant substantive content area and have taken the needed course work in statistics, methodology and research so that they are able to pursue doctoral-level research) and 2) successfully completed an oral examination.

### Oral examination

Upon successful completion of all required didactic course work, not including seminars and workshops, and submission and acceptance of a research proposal, students shall take an oral examination administered by the student's Research Advisory Committee. The exam shall be based on a defense of the student's proposed dissertation research project, which shall be constructed in the format of an NIH grant submission, and all other subject areas deemed appropriate by the committee. All advisory committee members must vote on the student's performance as either Pass or Fail. A student may pass the exam with no more than one negative vote. Upon successful completion of the oral examination, the student is officially entered into candidacy and permitted to refine their proposed dissertation research and submit it for final committee approval before initiating the project (see below). An unsuccessful oral examination shall require re-examination within a time period determined by the committee. Only one oral re-examination is permitted.

## Dissertation research

### a. Dissertation proposal

Students must propose and conduct a substantial original clinical and/or translational investigation under the supervision of the research advisers and advisory committee. The student can refine the research proposal which served as the foundation of their oral examination in consultation with the research advisers and advisory committee or propose a new novel research proposal. The proposal, which shall be constructed in the format of an NIH grant submission, should include information on the general purpose of the research, background information on the research topic (including a review of the relevant literature), a rationale for the project, a statement of the hypotheses to be investigated or research questions to be answered, and proposed methods and statistical analyses. Once the student has received the committee's approval, they can initiate their dissertation research.

### b. Dissertation research project

The research project should represent a significant contribution to the body of knowledge in its field and should be deemed publishable in refereed journals. The emphasis of the research conducted by students in this program shall be on clinical and translational interdisciplinary research, incorporating two or more disciplines as well as a systems approach. This emphasis will be fostered by the requirement of having at least one faculty member on the Research Advisory Committee from a school or college different from that of the research advisers, thereby exposing students to different perspectives on the same problem and assisting students in developing multidisciplinary approaches to their research.

### c. Dissertation defense

Students shall prepare a written dissertation describing the completed research using a format approved by the VCU Graduate School. An oral defense of the dissertation, under the direction of the Research Advisory Committee and open to all faculty members, shall be scheduled to examine the student's research, dissertation documentation and underlying fundamental knowledge across the disciplines encompassed by the student's research. An announcement of the oral defense, including the candidate's name, dissertation title, and the day, place and time of the defense, shall be made at least 10 working days in advance of the defense.

Following the defense, all committee members shall vote on the acceptability of the dissertation. A student may pass the oral defense, signifying that the Research Advisory Committee has accepted the dissertation, with no more than one negative vote. Upon successful completion of the defense and dissertation, the student may apply for graduation from Virginia

Commonwealth University with the degree of Doctor of Philosophy in Clinical and Translational Sciences.

## Time limit

All requirements for the Ph.D. must be completed with seven years from the date of admission to the degree program.

## Clinical and Translational Sciences, Doctor of Philosophy (Ph.D.)

Jessica L. Waugh, M.A., M.S.I.S

CCTR Graduate Education Program Manager

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## Admission requirements summary

Clinical and Translational Sciences, Doctor of Philosophy (Ph.D.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall	Applications received by Jan 10 receive priority	PBSG concentration only: GRE; TOEFL if relevant

The doctoral program in clinical and translational sciences offers a general curriculum, a specialized interdisciplinary [psychiatric, behavioral and statistical genetics concentration](#) and a [cancer and molecular medicine concentration](#) outlined below.

Students who pursue the doctoral program in clinical and translational sciences will be grounded in a relative substantive area and be prepared to integrate data from multiple disciplines, have strong communication and computational skills and be sufficiently flexible to easily move among different projects and research venues.

The curriculum provides a strong grounding in fundamental concepts while emphasizing aspects of research design and technology that are broadly applicable across disciplines in industrial, government and academic settings. A series of elective courses will then provide an advanced base of knowledge focused on a student's areas of interest.

In order to earn the Ph.D., students must complete a minimum of 54 credit hours: 32 core and elective courses, as well as 22 in directed and dissertation research that provide a sound foundation in clinical and translational research principles. Students will also participate in seminar and workshop experiences that place them in the midst of the research process from the theoretically based hypothesis generation through grant writing, study conduction, and, ultimately, data analysis and manuscript preparation. This program also includes a rigorous interdisciplinary research component comprised of directed research and dissertation hours.

### Student learning outcomes

1. Understand, integrate and apply relevant biomedical biobehavioral concepts and theoretical frameworks to research
2. Comprehend, select and apply the appropriate study design to address specific health issues
3. Critically review the scientific literature by applying sound research knowledge and principles to the review
4. Apply data collection processes, information technology to create, maintain, and secure databases and other information
5. Apply ethical principles to study design, data collection and dissemination
6. Devise an analysis plan (statistical methodology) and analyze data using methods appropriate for the study design and type of data to be obtained
7. Identify, interpret and implement relevant laws, regulations and policies related to specific studies and/or programs
8. Plan, incorporate and use appropriate methods for the dissemination and adoption of clinical research findings



9. Manage as a clinical translational research team leader, including the fiscal, personnel, facilities, regulatory assets and scientific integrity of a funded clinical research program
10. Use knowledge and skills related to leadership, team building, negotiation, conflict resolution, group process and principles of ethical decision-making to manage a research team and build transdisciplinary collaboration
11. Identify and coordinate institutional resources needed to carry out theoretically based and scientifically sound high-quality funded research
12. Effectively communicate specialist-to-specialist
13. Effectively communicate specialist knowledge to non-specialists and lay people

A typical program of study will include:

#### Core

BIOS 571 Clinical Trials	3
CCTR 520 Fundamentals of Research Regulation	2
CCTR 550 Foundations of Clinical and Translational Research: The Intersection of Theory and Application	3
CCTR 690 Research Seminar in Clinical and Translational Sciences	3
CCTR 801, 802, 803 Research Practicum I, II, III (1 credit each)	3
CCTR 810 Foundations of Translational Research	2
CCTR 815 The NIH Proposal Challenge	2
CCTR 897 Directed Research in Clinical and Translational Sciences	2
OVPR 601 Scientific Integrity	1
Statistics, clinical trial or translational experimental design courses (chosen with approval of Research Advisory Committee)	3
	<b>24</b>

#### Electives

(chosen with approval of Research Advisory Committee)

#### Research

CCTR 897 Directed Research in Clinical and Translational Sciences (typically 2-4 credit hours)	22
CCTR 898 Dissertation Research in Clinical and Translational Sciences (typically 18-20 credit hours)	

**Total** 54

#### Psychiatric, behavioral and statistical genetics concentration

**Target audience for PBSG concentration: Emerging researchers with research interests matching focus areas of Virginia Institute for Psychiatric and Behavioral Genetics**

The doctoral degree in clinical and translational sciences with the psychiatric, behavioral statistical genetics concentration was designed by faculty at the Virginia Institute for Psychiatric and Behavioral Genetics. This interdisciplinary institute brings together faculty with a wide range of scientific backgrounds ranging from statistical and molecular genetics to epidemiology, psychology and psychiatry, all with the joint focus of understanding how genetic and environmental factors impact the development of psychiatric and substance use disorders and related behavioral outcomes.

Faculty members work across twin and family studies, gene identification projects and genetically informative longitudinal, community-based samples. Faculty also are involved in statistical methods development for these projects. Students in the PBSG concentration obtain interdisciplinary training with course work in human genetics, psychology/psychiatry, biostatistics and epidemiology. Students can tailor their training and research experience to their particular career goals by selecting electives in their focused area of interest.

All students are expected to be actively engaged in research throughout the duration of their Ph.D. Students are generally admitted under a mentorship model,

meaning that they will begin research under the supervision of a faculty adviser to whom their research interests most closely align. Other didactic experiences include the weekly seminar series (both at the VIPBG and in external departments) as well as participation in workshops and scientific meetings of relevance to the student's research area.

A typical program of study will include:

BIOS/STAT 543 Statistical Methods I	3
BIOS/STAT 544 Statistical Methods II	3
CCTR 690 Research Seminar in Clinical and Translational Sciences (concentration-specific section)	1
CCTR 815 The NIH Proposal Challenge or PSYC 700 Grant Writing	2 or 3
CCTR 897 Directed Research in Clinical and Translational Sciences	variable
CCTR 898 Dissertation Research in Clinical and Translational Sciences	variable
EPID 571 Principles of Epidemiology	3
HGEN 501/BIOL 530 Human Genetics	3
HGEN 502 Advanced Human Genetics	3
HGEN 603 Mathematical and Statistical Genetics	3
HGEN 620 Principles of Human Behavioral Genetics	3
OVPR 601 Scientific Integrity	1
PSYC 616 Psychopathology	3
PSYC 691 Special Topics (research methods)	1-3
Electives	variable

#### Cancer and molecular medicine concentration

**Target audience for CCM concentration: Doctoral and dual-degree (M.D./Ph.D.) students interested in developing molecular approaches to the treatment of cancer and other diseases**

The doctoral degree in clinical and translational sciences with the cancer and molecular medicine concentration is designed to train students in the research skills required to perform translational research in cancer and molecular medicine. Students will carry out translational research projects, which will use bench-to-animal, and/or bench-to-bedside experimental models. To facilitate the bridging of the bench and clinical sciences, students have both a research and a clinical mentor. Students take core courses and seminars in translational science and electives in their area of research interest. Students in this program will require a background and the necessary vocabulary to communicate with both scientists and clinicians, and the research skills to be able to bridge bench science and clinical science. The marriage of cancer and molecular medicine blends established cancer biology with an emerging field, molecular medicine. CMM would serve as an educational program for Ph.D. students encompassing the research objectives of the VCU Massey Cancer Center, the VCU Institute of Molecular Medicine and the CCTR.

#### Impact on CMM students:

Students who complete the program should achieve the following core competencies:

1. Ability to critically review the scientific literature to design research projects aimed at relevant translational research questions
2. Ability to develop hypothesis-based research projects that bridge the gap between the bench and the bedside, through the application of cellular and molecular approaches to treatment modalities
3. Ability to demonstrate the research skills to perform laboratory-based or epidemiology research that is translational in nature
4. Ability to analyze and critically evaluate translational research data using methods appropriate for the area being studied
5. Understanding of the ethical and legal issues surrounding study design in translational research
6. Skills to communicate with others in the clinical and basic science interface in order to build interdisciplinary collaborations

**Curriculum/courses for CMM students:** CMM Ph.D. students will take a minimum of 54 credits, including research and other courses. The CMM

concentration will have a special section of CCTR 690, the seminar course, featuring a selection of seminars focusing on cancer and molecular medicine, chosen from the seminar series currently supported by the VCU Institute of Molecular Medicine, Massey Cancer Center, CCTR and the departments in the School of Medicine.

BIOS 543 Statistical Methods	3
BIOS 571 Clinical Trials	3
CCTR 520 Fundamentals of Research Regulation	2
CCTR 550 Foundations of Clinical and Translational Research: The Intersection of Theory and Application	3
CCTR 690 Research Seminar in Clinical and Translational Sciences	8
CCTR 801 Research Practicum I	1
CCTR 802 Research Practicum II	1
CCTR 897 Directed Research in Clinical and Translational Sciences	variable
CCTR 898 Dissertation Research in Clinical and Translational Sciences	variable
IBMS 680 Proposal Preparation	1
OVPR 601 Scientific Integrity	1
PHIS 691 Special Topics in Physiology (science and disease)	1
Electives	12

### Clinical and Translational Sciences, Master of Science (M.S.)

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### Admission requirements summary

Clinical and Translational Sciences, Master of Science (M.S.)			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall preferred	Rolling admission	None

**Target audience:** VCU junior faculty; early-stage and new investigators with terminal degrees

The Master of Science in Clinical and Translational Sciences program provides training and mentoring for a new generation of investigators who, regardless of primary area of interest, will be able to understand the methods and techniques used along the pathway from the bench to the bedside and beyond, to the community. The program offers a broad foundation of core courses and emphasizes the importance of interdisciplinary approaches to research. The master's degree can be earned upon completion of 30 credit hours of core and elective courses, including a master's essay in the form of an NIH-style proposal. The program provides a sound foundation in clinical and translational research principles and thereby prepares the student to engage in many components of investigative processes.

The program requires a minimum of 30 credit hours distributed between core and elective courses. The core curriculum, required of all students in the program, consists of 21 credit hours, including a minimum of 6 credit hours in statistics or experimental design. An additional minimum of 9 credit hours of elective courses completes the program. The core provides students with an understanding of the concepts and importance of clinical and translational sciences to the advancement of health care provision and associated patient outcomes, as well as grounds students with the emerging computational tools they will need to become leaders in the advancement of health sciences.

Students will be required to attend the research seminar course each semester they are in the program (and register for the course a minimum of three times) in order to stay abreast of current health and human services research and to develop their communication skills. Additionally, the core includes a course on responsible conduct of research and scientific integrity, which will ensure that students understand the broad ethical implications of biobehavioral and biomedical

research, understand what constitutes scientific fraud and misconduct, and are aware of their responsibilities as scientists.

### Student learning outcomes

1. Understand, integrate and apply relevant biomedical biobehavioral concepts and theoretical frameworks to research
2. Comprehend, select and apply the appropriate study design to address specific health issues
3. Critically review the scientific literature by applying sound research knowledge and principles to the review
4. Apply data collection processes, information technology to create, maintain, and secure databases and other information
5. Apply ethical principles to study design, data collection and dissemination
6. Devise an analysis plan (statistical methodology) and analyze data using methods appropriate for the study design and type of data to be obtained
7. Identify, interpret and implement relevant laws, regulations and policies related to specific studies and/or programs
8. Plan, incorporate and use appropriate methods for the dissemination and adoption of clinical research findings
9. Manage as a clinical translational research team leader, including the fiscal, personnel, facilities, regulatory assets, and scientific integrity of a funded clinical research program
10. Effectively communicate specialist-to-specialist
11. Effectively communicate specialist knowledge to non-specialists and lay people

A typical program of study will include:

### Core

BIOS 571 Clinical Trials	3
CCTR 520 Fundamentals of Research Regulation	2
CCTR 550 Foundations of Clinical and Translational Research: The Intersection of Theory and Application	3
CCTR 690 Research Seminar in Clinical and Translational Sciences	3
CCTR 700 Master's Essay	3
OVPR 601 Scientific Integrity	1
Statistics, clinical trial or translational experimental design courses (chosen with approval of Research Advisory Committee)	6
	<b>21</b>

### Electives

(chosen with approval of Research Advisory Committee)

**Total** 30



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## **2013-14 Graduate and Professional Programs Bulletin**

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**da Vinci Center for Innovation**

601 West Main Street  
Richmond, Virginia 23284  
(804) 828-0190  
[www.davincicenter.vcu.edu](http://www.davincicenter.vcu.edu)

**Kenneth B. Kahn, Ph.D.**  
Director

A collaboration of VCU's School of the Arts, School of Business and School of Engineering, the da Vinci Center for Innovation is a unique collegiate model that advances interdisciplinary innovation and technology-based entrepreneurship. Through academic and other program offerings, the da Vinci Center catalyzes innovation through the unity of arts, business and engineering disciplines as it prepares students to enter a product innovation career and supports learning initiatives by partner organizations.

## da Vinci Center courses

Descriptions for all courses offered by the university may be accessed through the online courses database at [www.pubapps.vcu.edu/vcucourses](http://www.pubapps.vcu.edu/vcucourses). You may search by unit, subject or keyword, as well as by degree level.

Follow this link to da Vinci Center innovation (INNO) courses.

### Product Innovation, Master of

#### Admission requirements summary

Product Innovation, Master of			
Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.P.I.	Spring 2012	Oct 15	<a href="#">See below.</a>
	Fall	May 31	
Special requirements: At the discretion of the M.P.I. graduate committee, a personal interview may be requested.			

The Master of Product Innovation is administered by VCU's da Vinci Center for Innovation, which is a joint collaboration between VCU's schools of the Arts, Business and Engineering. Integrating arts, business and engineering principles, students will learn advanced product innovation topics pertaining to conceptualization, development and commercialization of new products. Through unique instruction and experiential learning that culminates with a yearlong master's project, students will have a real product innovation experience that could result in true business creation and economic development opportunities. M.P.I. graduates will reflect product innovation and teamworking skills that will enable them to serve in key leadership roles to stimulate the creation, development and management of new products and services.

#### Student learning outcomes

M.P.I. students will demonstrate:

1. The ability to integrate arts, business and engineering principles
2. Knowledge of advanced product innovation topics pertaining to conceptualization, development and commercialization of new products
3. Product innovation and team-working skills that will enable students to serve in key leadership roles in order to stimulate creation, development and management of new products and services
4. Real product innovation experience that could result in true business creation and economic development opportunities, and unique instruction and experiential learning.

#### Overview

The M.P.I. requires a minimum of 30 credit hours across a prescribed two-year program. Prior to the first semester of graduate study, students will participate in an intensive Product Innovation Boot Camp experience. Students in their first semester will take two of the three introductory courses: INNO 501 Arts Principles for Product Innovation, INNO 502 Business Principles for Product Innovation and INNO 503 Technology Principles for Product Innovation. A student would not be required to take that course which corresponds to their undergraduate major/degree; however, it is strongly encouraged that students take all three courses and serve as leaders in the course that matches their undergraduate discipline. Students will also take INNO 600 Integrative Design

Studio in their first semester to develop design skills for use in subsequent course work.

In the second semester, students will enroll in INNO 590 da Vinci Project Course, to participate in a da Vinci project and hone their product innovation skills. Students also will successfully complete two technical electives in a discipline corresponding to their undergraduate major. Taking at least one 600-level technical elective would be prescribed.

In the second year of the program (third and fourth semesters), students will participate in the Master's Project in Product Innovation course work and complete a yearlong product innovation project. The capstone project will be under the direction of faculty advisers and represent a company-sponsored project or a student-initiated project, either of which will address a real contemporary issue. While the contexts may differ across projects, the talents and know-how of an interdisciplinary team of students comprising arts, business and engineering skill sets will focus on the respective issues, thereby exemplifying a real product design and development project. Advisers and company sponsors will regularly interact with student teams to ensure successful progress and reinforce project professionalism.

#### Part-time option

The program can be taken part time. After participating in the Boot Camp experience prior to their first semester, part-time students will take two of the three introductory principle courses. In the second semester, part-time students will complete INNO 590 da Vinci Project Course and one technical elective. Another technical elective will be taken in the summer semester. In the second year, the part-time student will take the remaining principles course and INNO 600 Integrative Design Studio. After completing the prerequisite course work, the master's project can be taken.

#### Graduation requirements

Overall, the Master of Product Innovation requires a minimum of 30 credit hours for completion. The curriculum mandates four required core courses (12 credit hours), two elective courses (6 credit hours) and two master's project courses (12 credit hours). A master's project is mandatory for all students.

Requirements for the graduation from the program are:

- Satisfy the MPI degree program admission requirements and be admitted to the MPI program.
- Receive project approval from the faculty advisory team and successfully complete and submit the master project report.
- Maintain good academic progress and make satisfactory progress toward the degree.
- Complete a minimum of 30 credits of course work as summarized below:

#### Core curriculum (12 credit hours)

Students must take at least two of the following three courses, depending on which of the below does not correspond to the undergraduate major – though it is recommended that students take all three courses; if the student does not have an undergraduate degree in an arts, business or engineering discipline, they must enroll in all three courses:

INNO 501 Arts Principles for Product Innovation (3 credit hours)  
INNO 502 Business Principles for Product Innovation (3 credit hours)  
INNO 503 Technology Principles for Product Innovation (3 credit hours)

All students will enroll in:

INNO 590 da Vinci Project (3 credit hours)  
INNO 600 Integrative Design Studio (3 credit hours)

#### Technical electives (6 credit hours)

Students will take technical elective course work in their respective undergraduate degree areas. Specific courses will be determined by the student with approval by the M.P.I. Faculty Committee. All technical electives must be graduate course work, with at least three credit hours at the 600 level.

#### Master's project (12 credit hours)

INNO 651 Master's Project in Product Innovation I (6 credit hours)  
INNO 652 Master's Project in Product Innovation II (6 credit hours)

#### Admission criteria

To be considered for admission to the program, an applicant must:

- Have a bachelor's degree or equivalent from an accredited college or university

- Have, except in very unusual cases approved by the graduate dean, a minimum undergraduate GPA of 3.0 on a 4.0 scale for at least the last two years of undergraduate work
- For applicants whose native language is not English, satisfactory scores from a standardized test commonly used and deemed appropriate for evaluation of English language proficiency, such as the TOEFL
- One letter of recommendation
- Applicant's written statement of intent for pursuing graduate study in the product innovation discipline

Additionally, at the time of application an applicant must determine their area of specialization as arts, business or engineering. The following application requirements apply:

- An applicant applying for the arts specialization must submit a portfolio of 20 to 30 examples of representative work.
- An applicant applying for the business specialization must have a score in at least the upper 60th percentile on either the GMAT or GRE exam.
- An applicant applying for the Engineering specialization must have score in at least the upper 60th percentile on the GRE exam.

At the discretion of the M.P.I. graduate committee, a personal interview may be requested.

For further information, refer to VCU's da Vinci Center for Innovation website at [www.davincicenter.vcu.edu](http://www.davincicenter.vcu.edu) or contact Dr. Kenneth Kahn, director of VCU's da Vinci Center, at [kbkahn@vcu.edu](mailto:kbkahn@vcu.edu).